

FIG.1

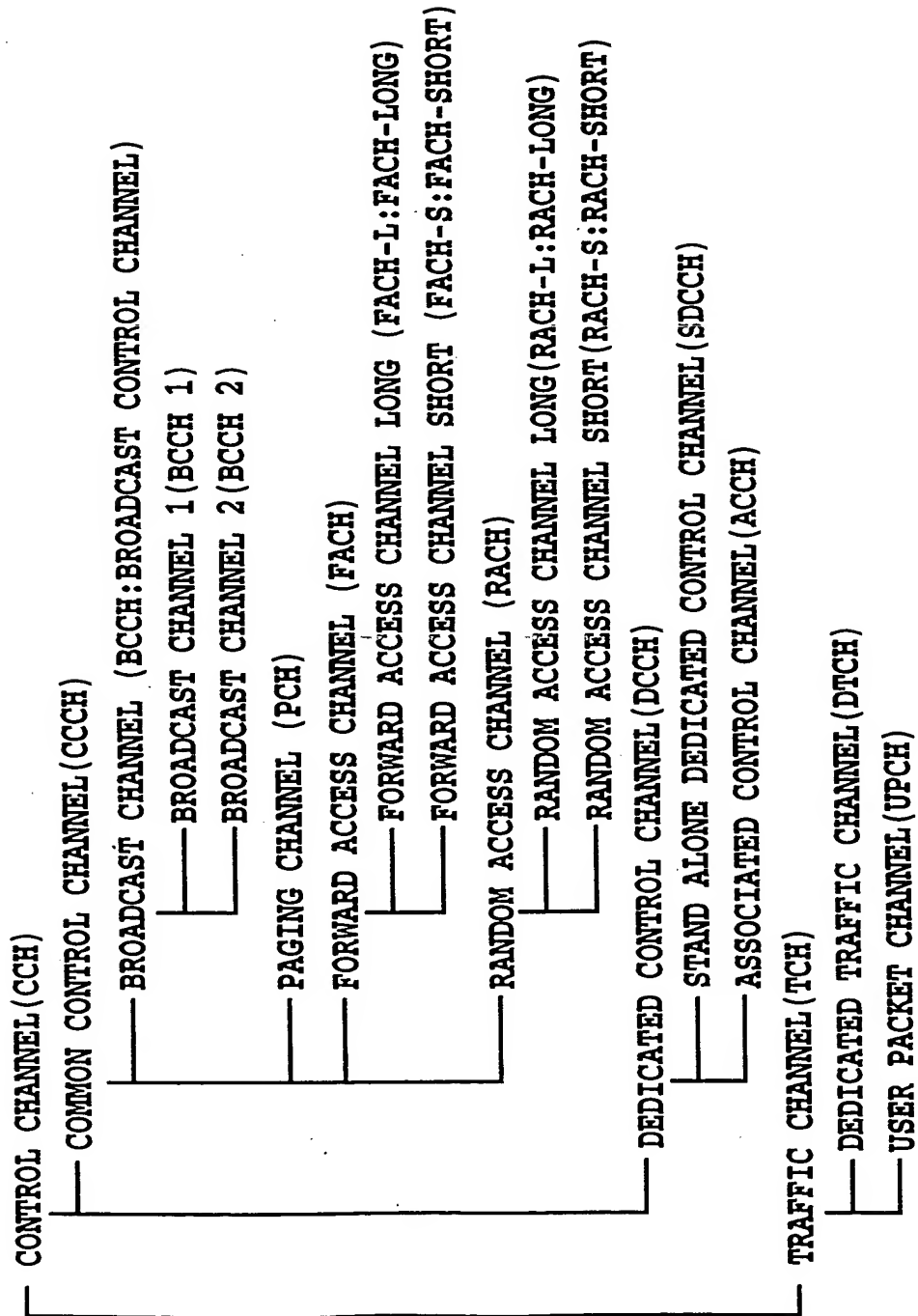


FIG.2

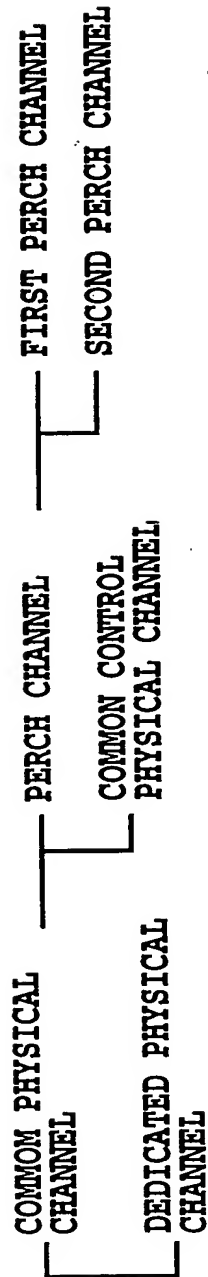


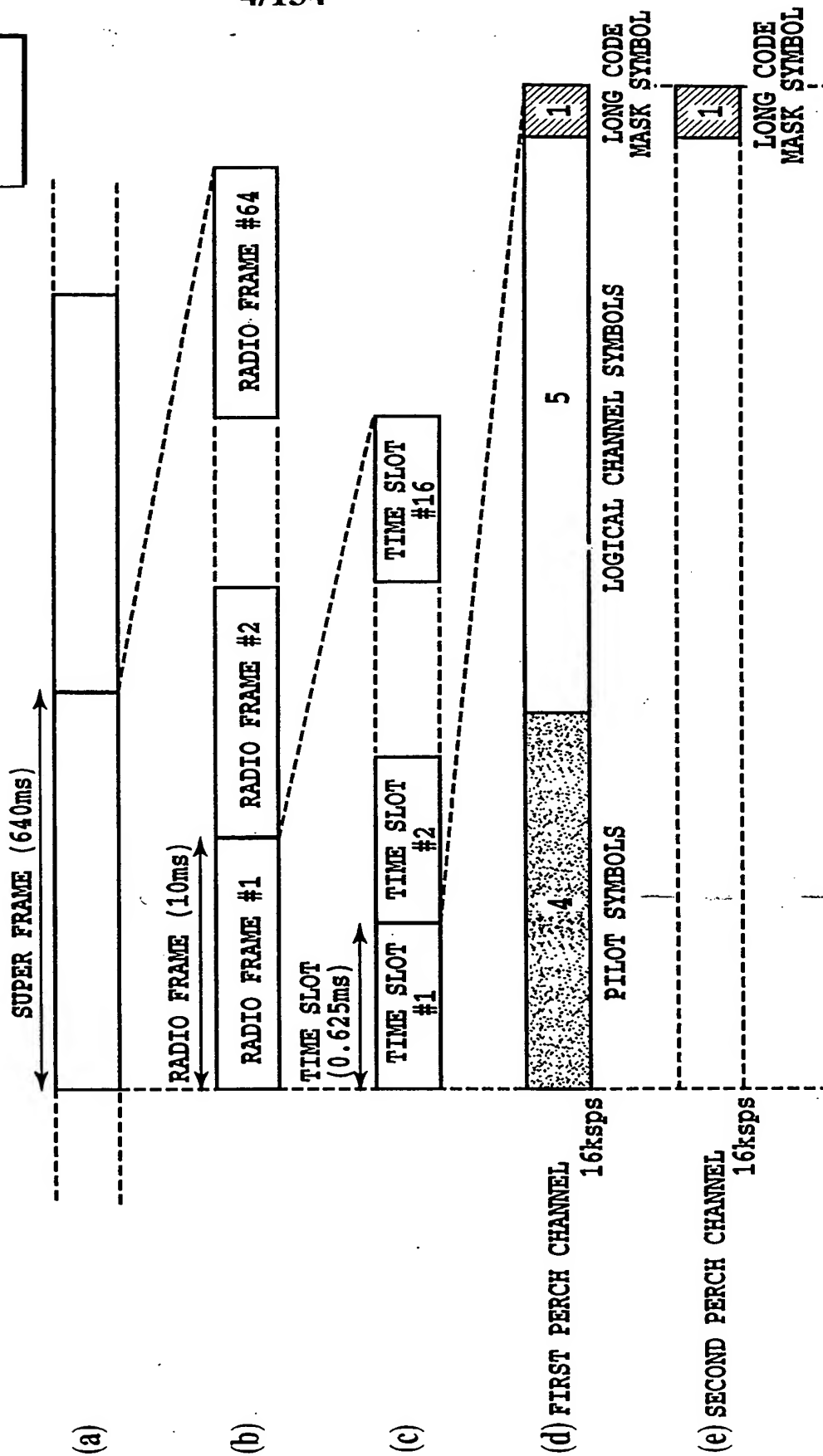
FIG.3

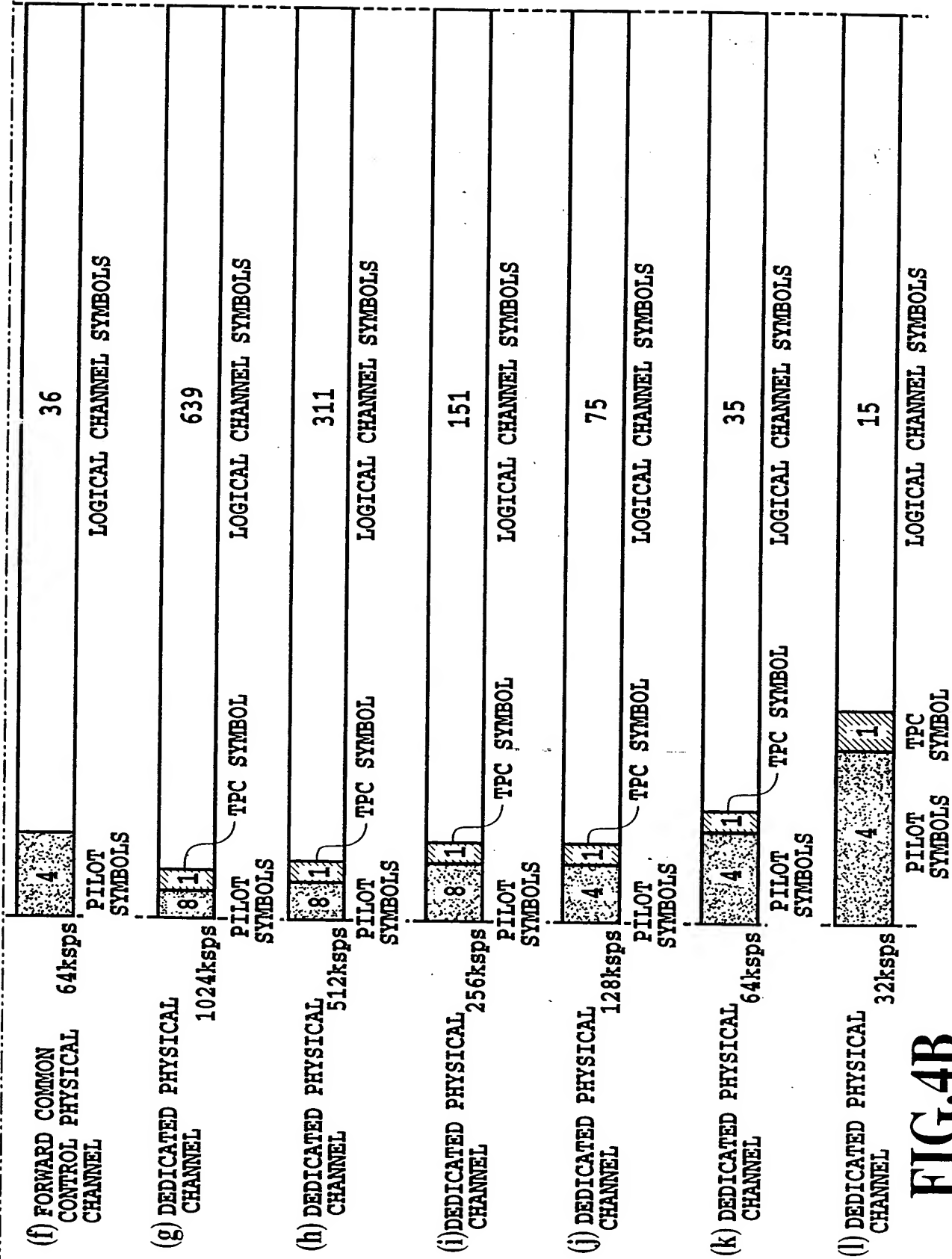
FIG.4

FIG.4A

FIG.4B

FIG.4A





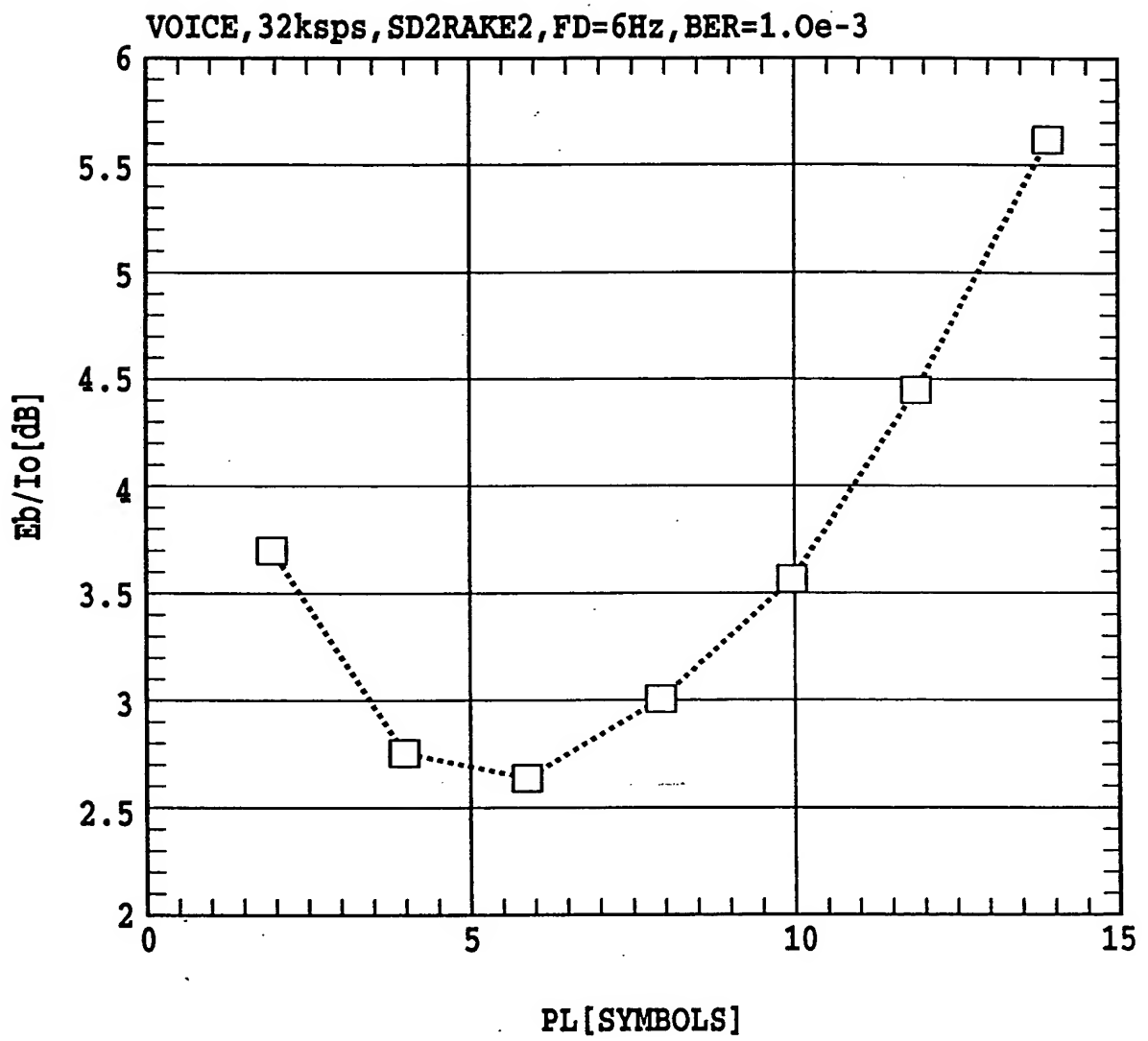


FIG.5

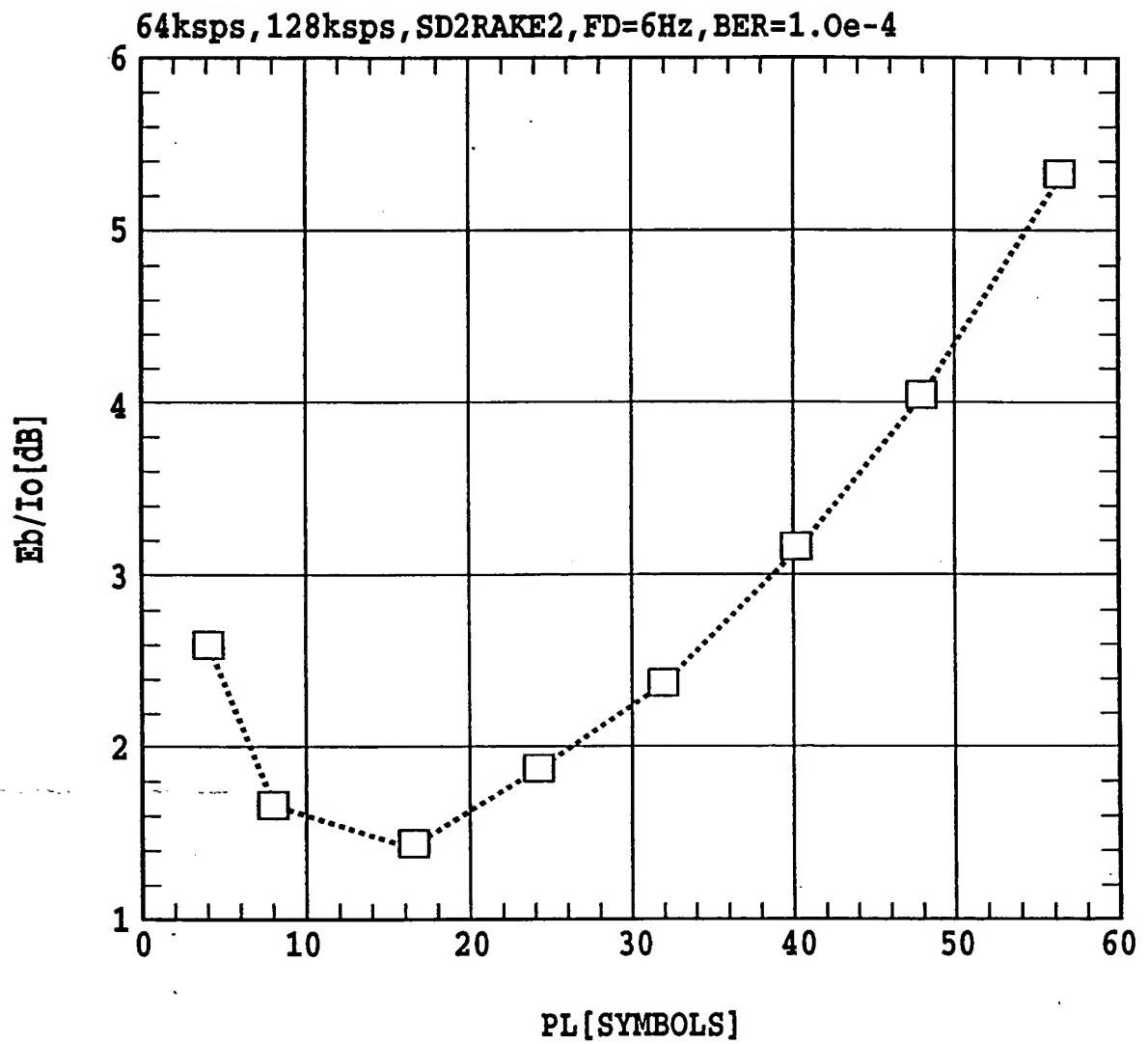


FIG.6

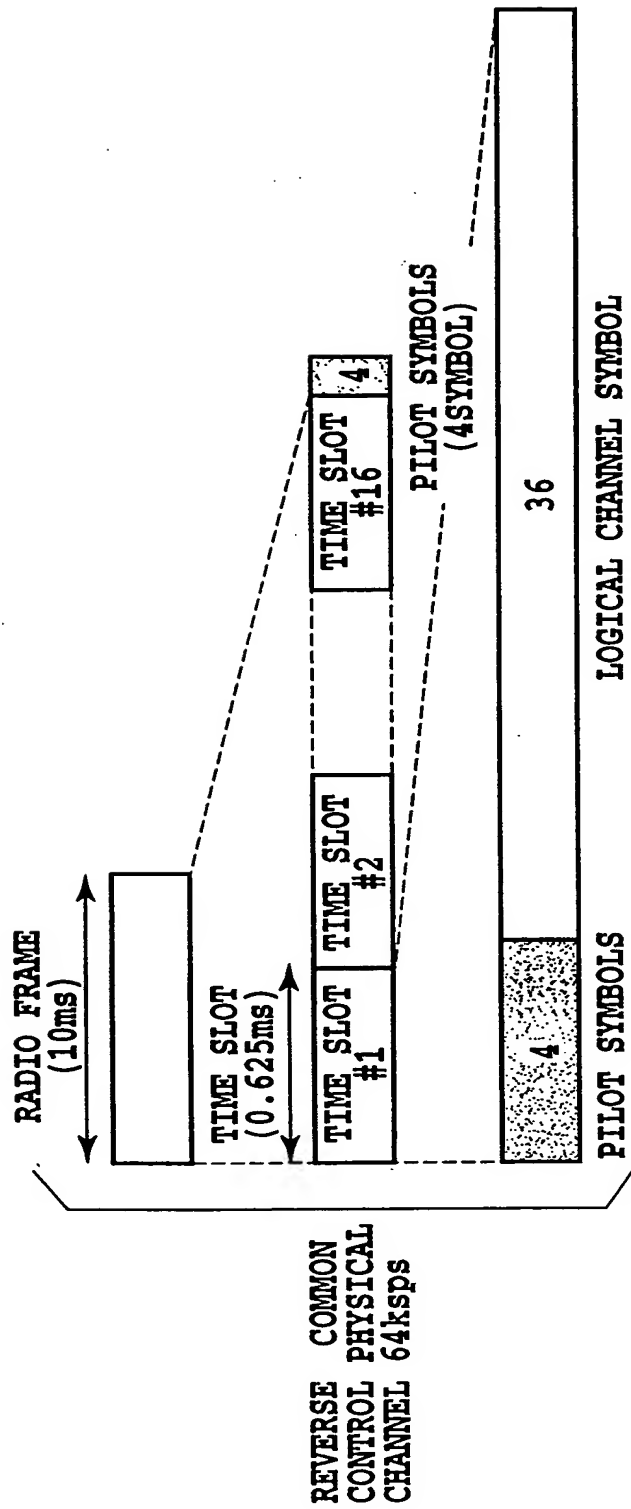


FIG.7A

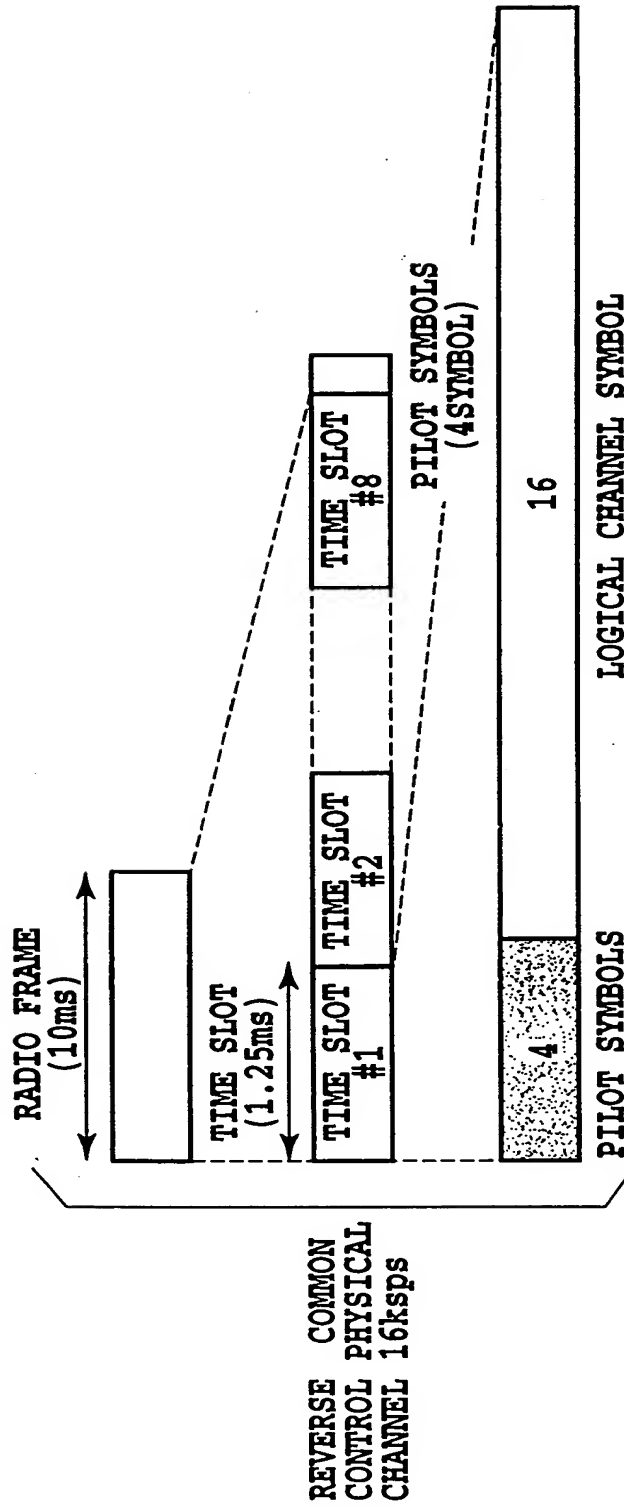


FIG.7B

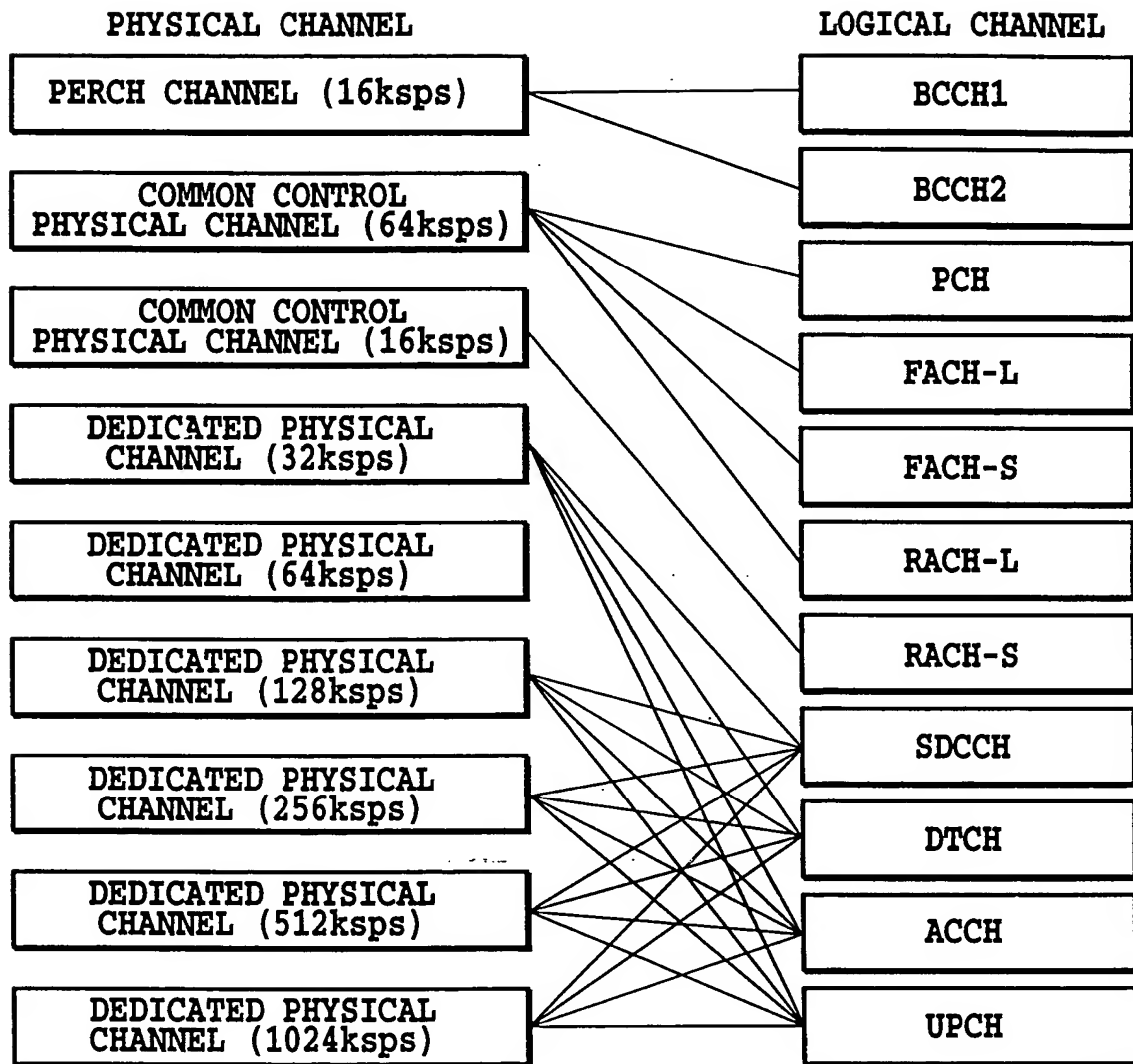


FIG.8

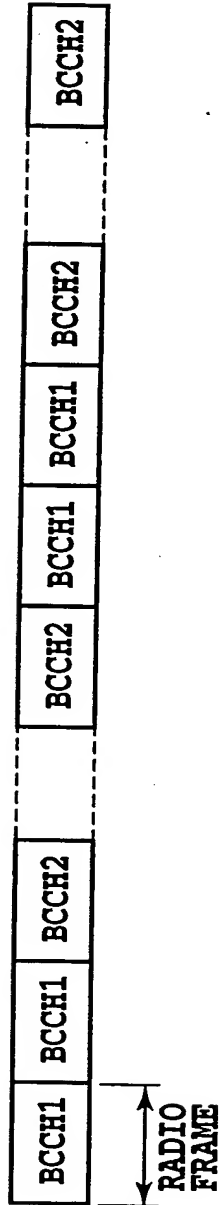


FIG.9

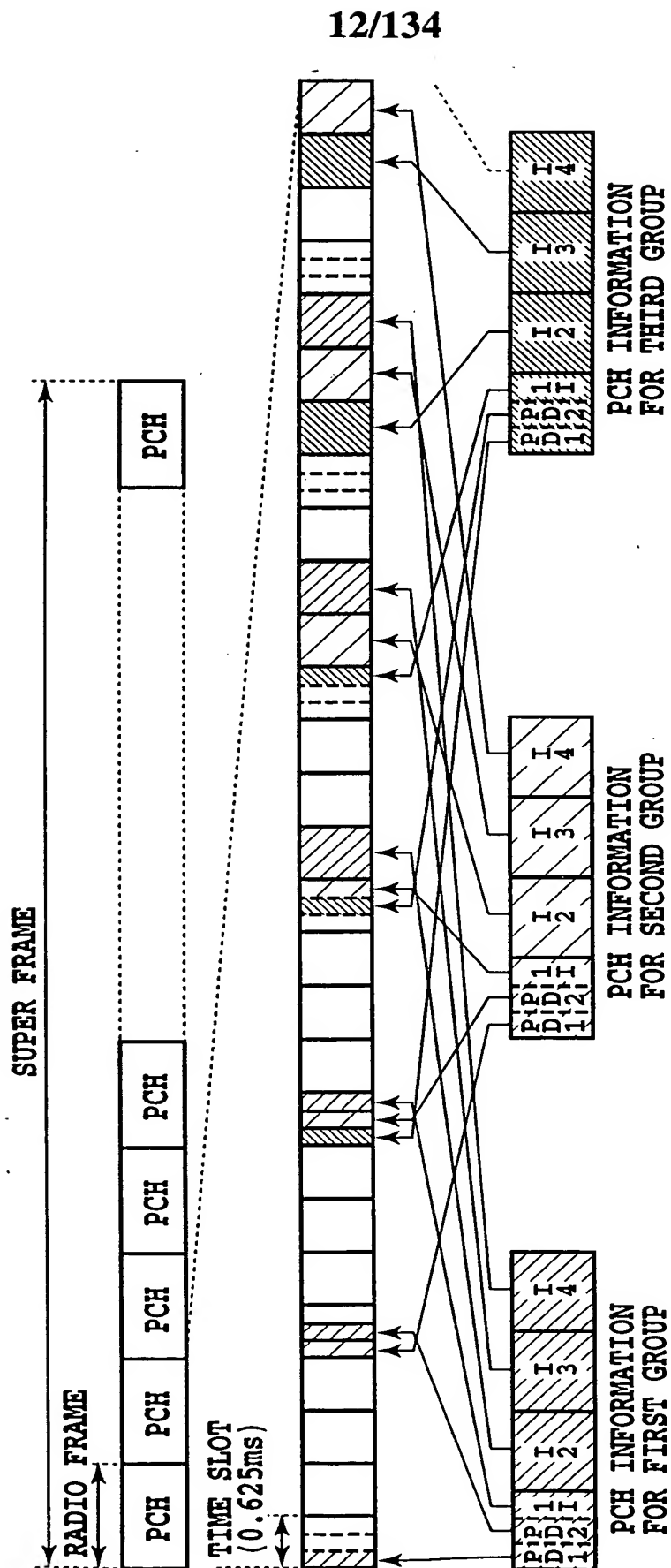


FIG.10

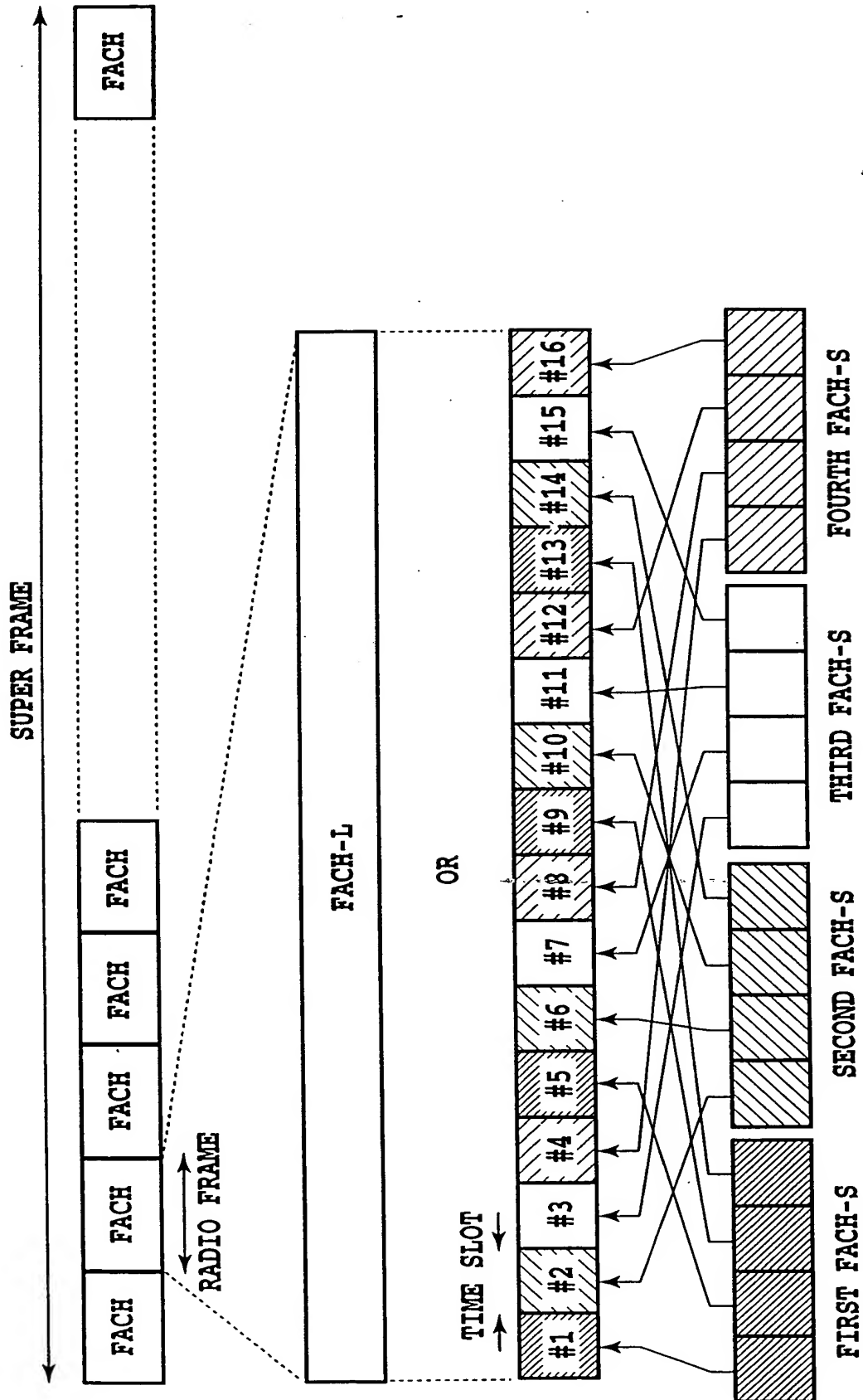


FIG.11

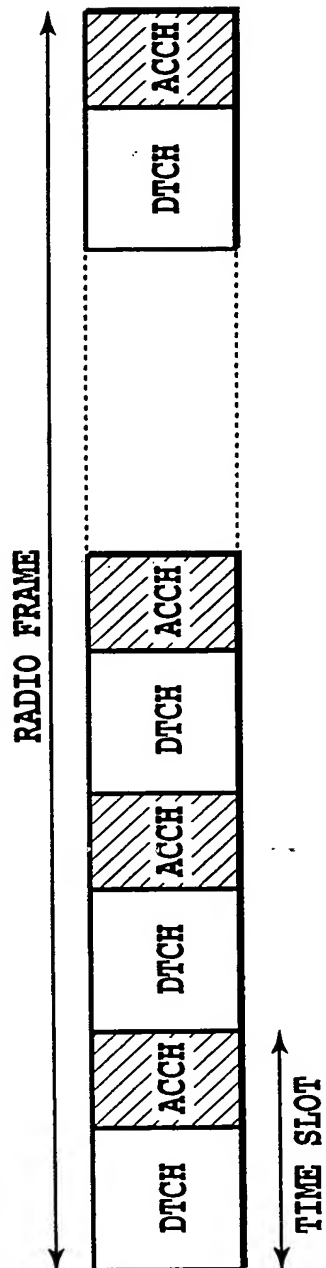
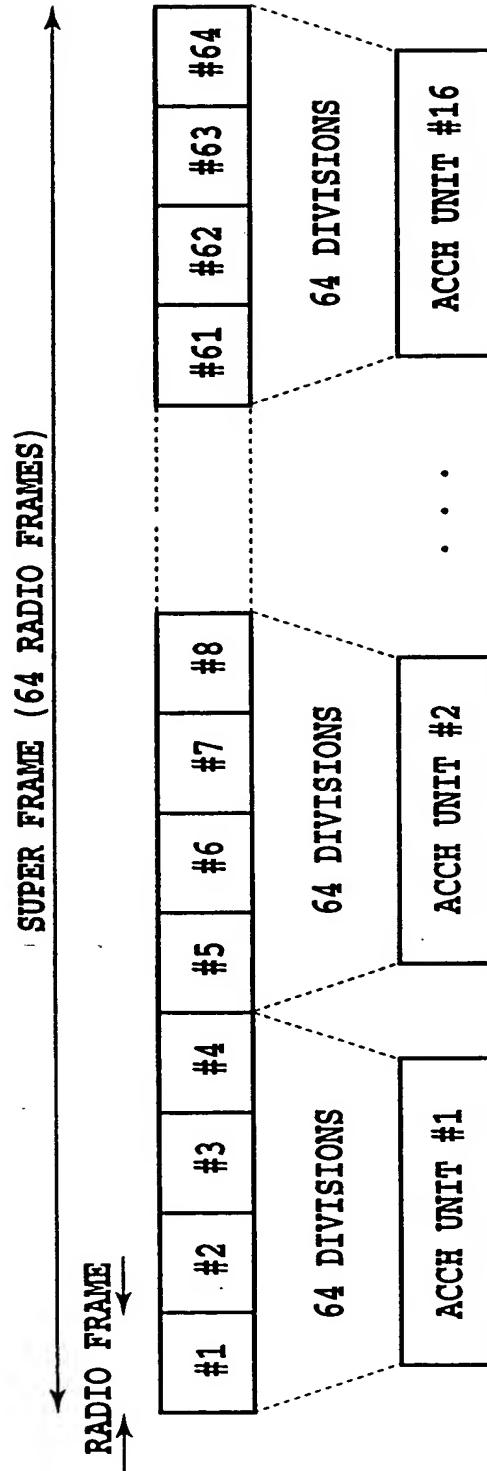
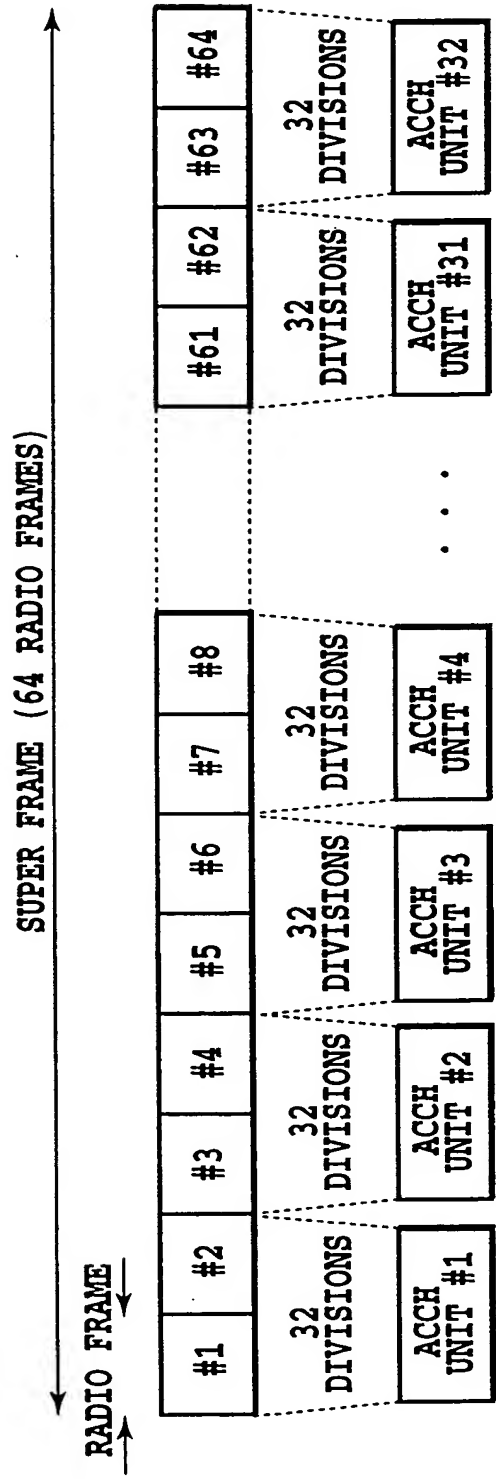


FIG.12



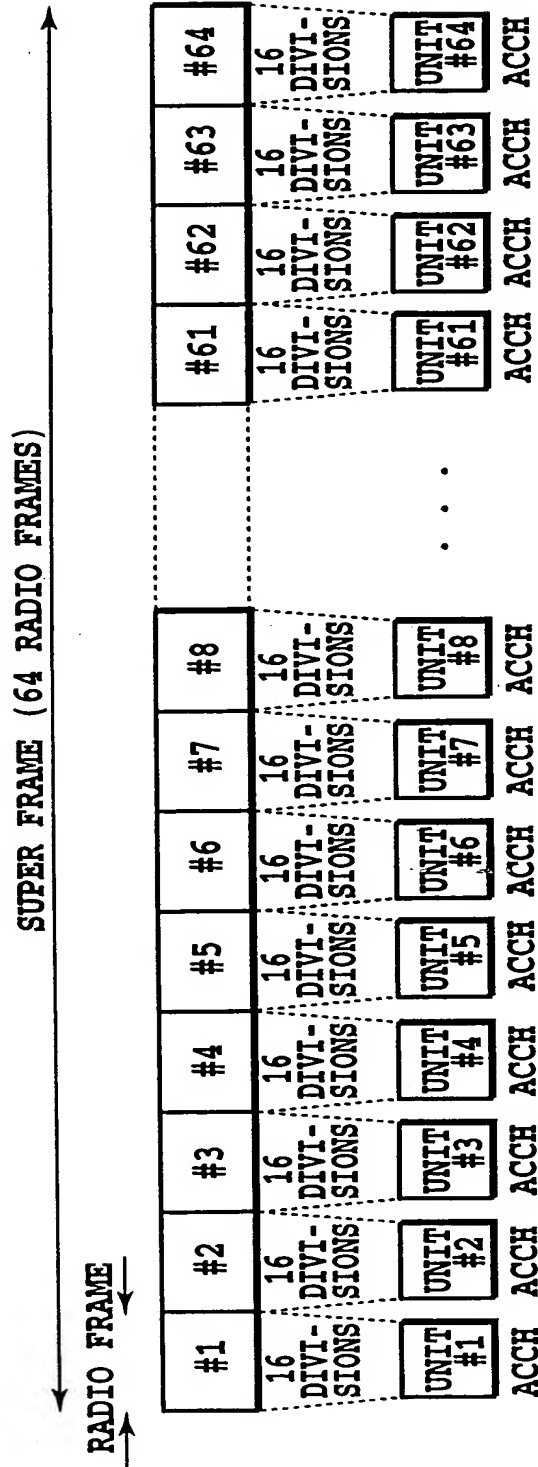
MAPPING INTO 32 OR 64KSPS DEDICATED PHYSICAL CHANNEL

FIG.13A



MAPPING INTO 128kps DEDICATED PHYSICAL CHANNEL

FIG.13B



MAPPING INTO 256ksps DEDICATED PHYSICAL CHANNEL

FIG.13C

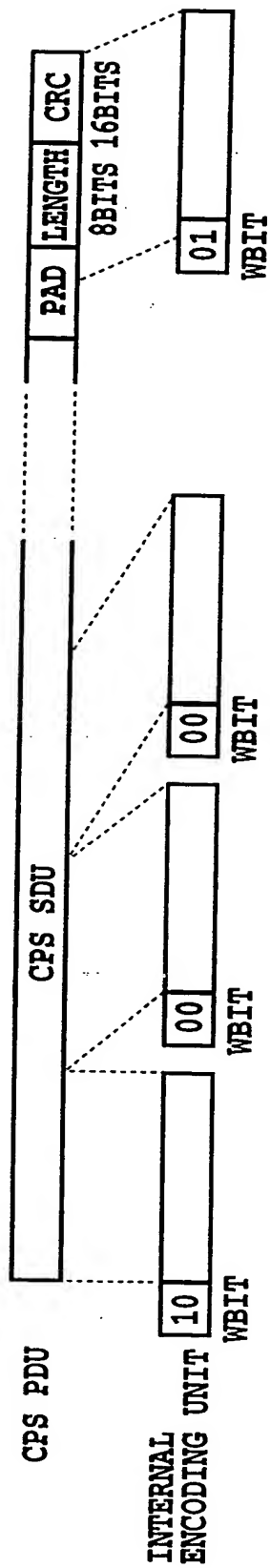


FIG.14

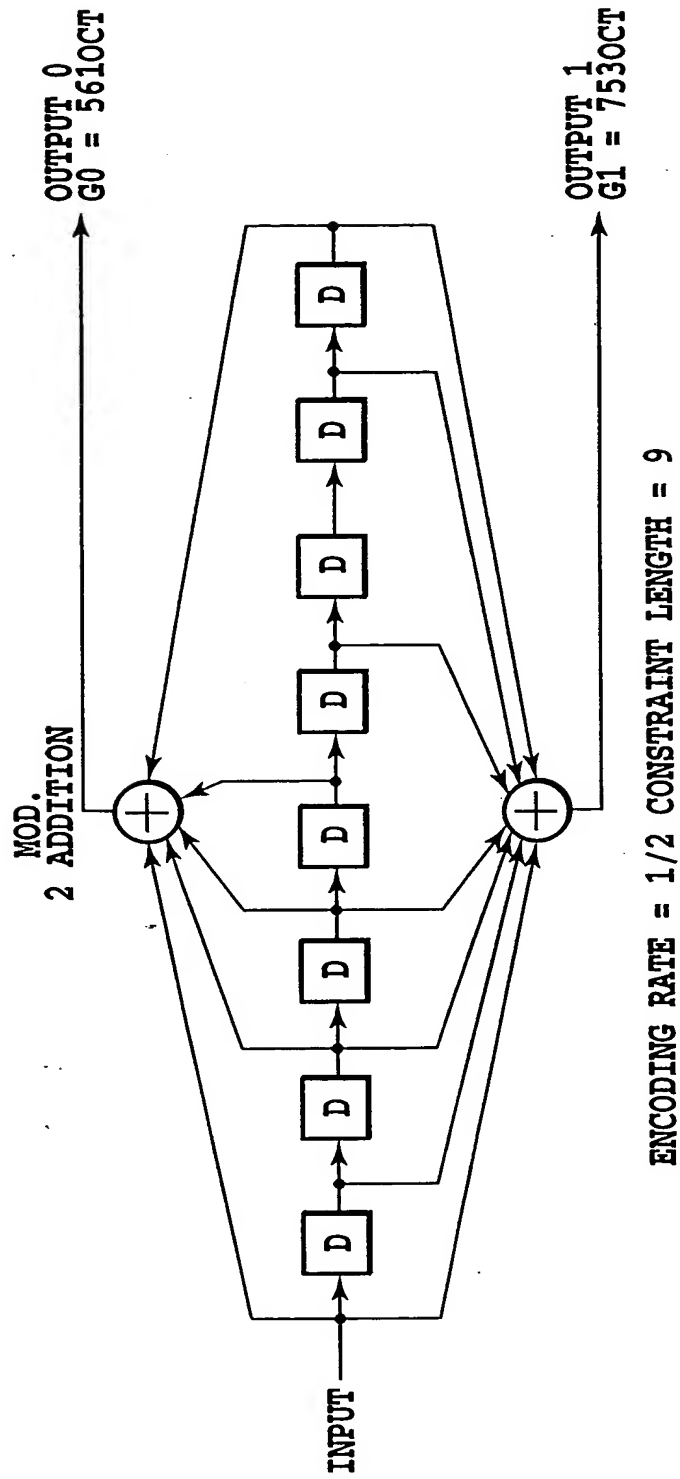
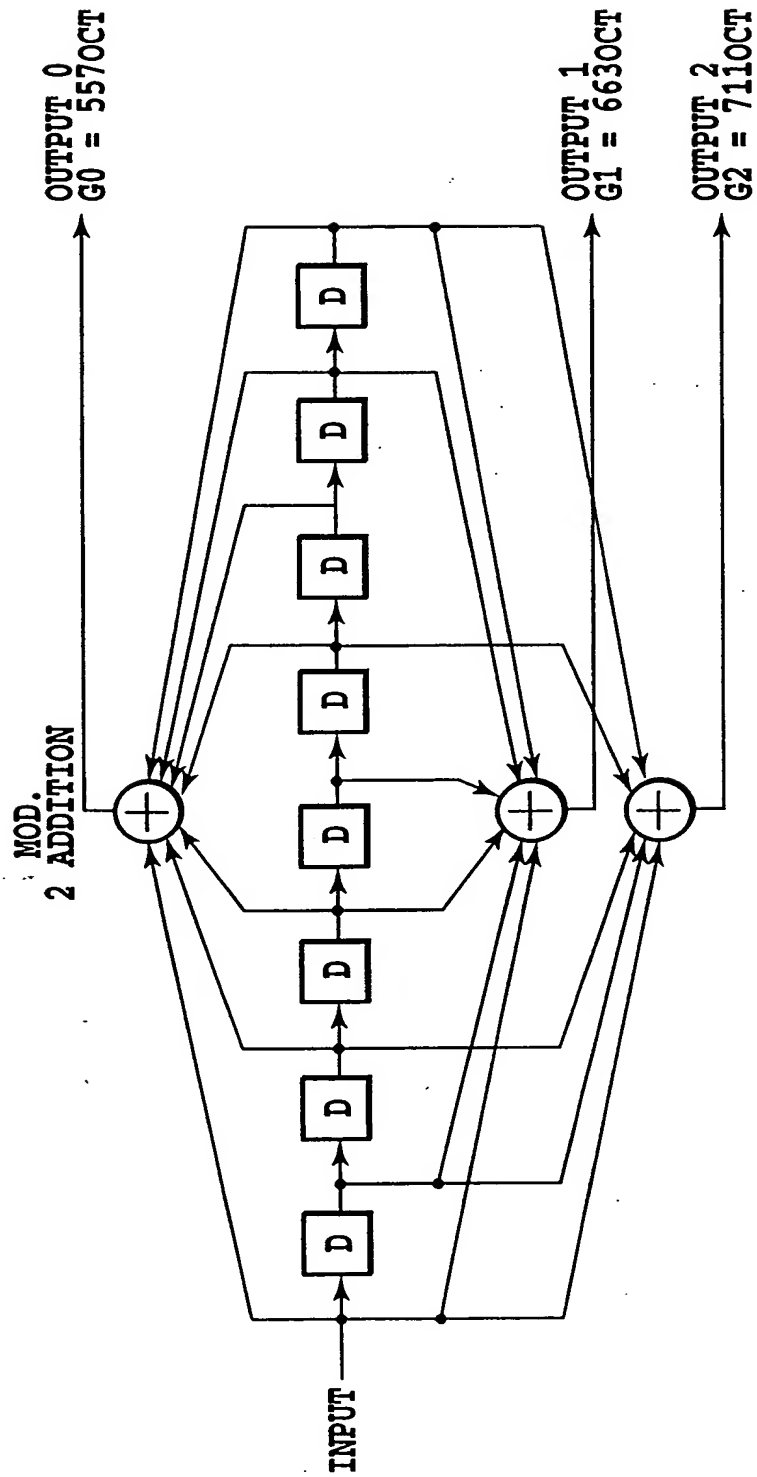


FIG.15A



ENCODING RATE = 1/3 CONSTRAINT LENGTH = 9

FIG.15B

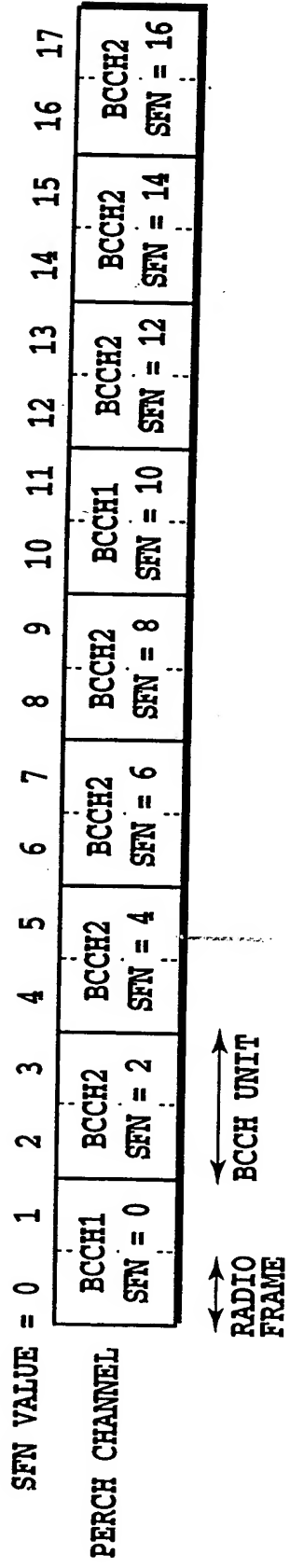


FIG.16

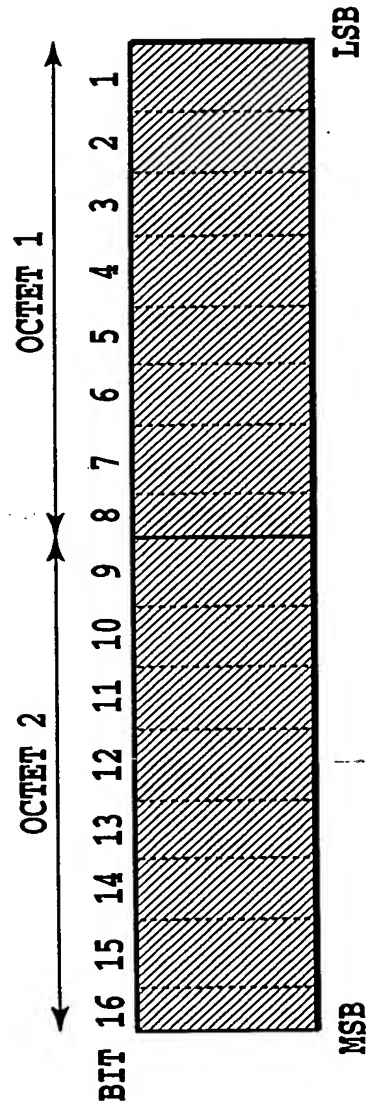


FIG.17

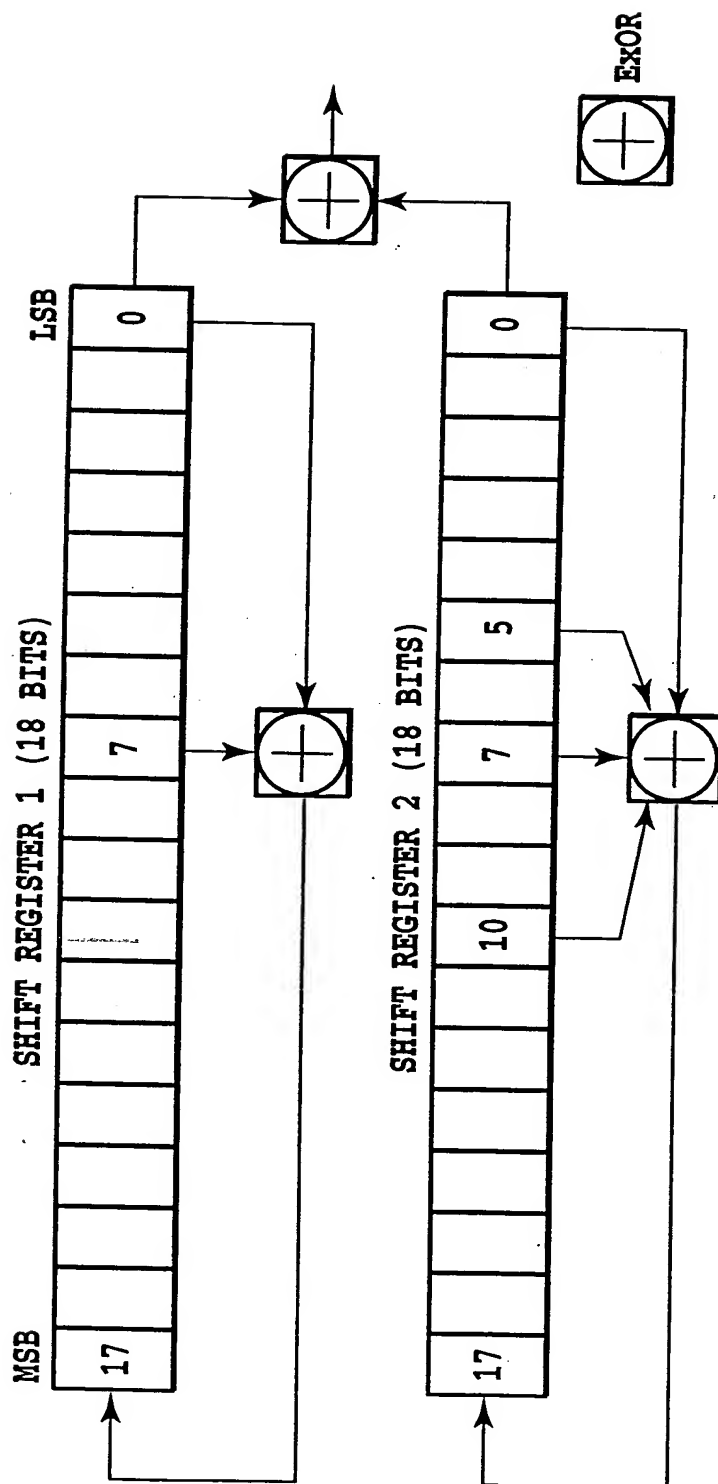


FIG.18

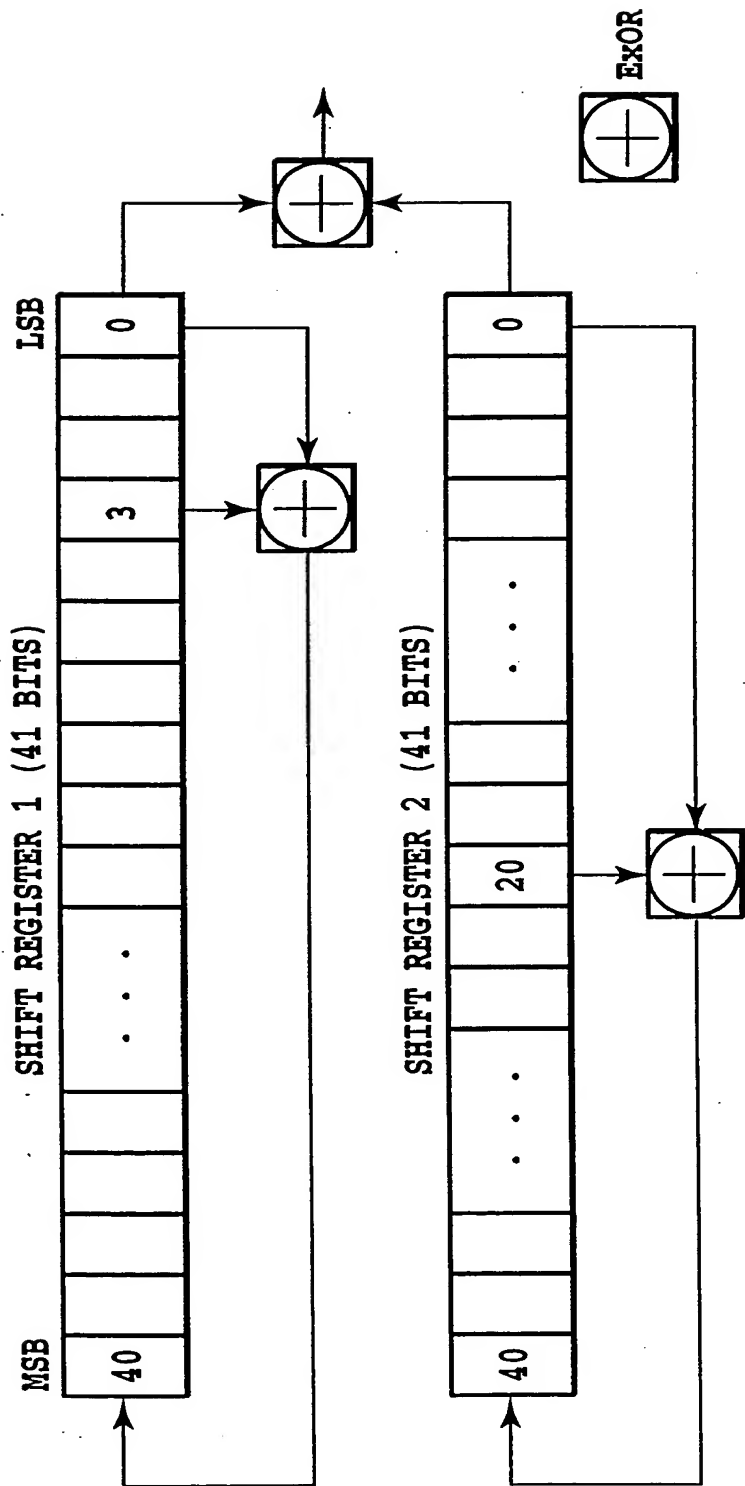


FIG.19

$$C_0(0)=1$$

$$\begin{bmatrix} C_1(0) \\ C_1(1) \end{bmatrix} = \begin{bmatrix} C_0(0) & \overline{C_0(0)} \\ C_0(0) & \overline{C_0(0)} \end{bmatrix} = \begin{bmatrix} 1 & 1 \\ 1 & 0 \end{bmatrix}$$

$$\begin{bmatrix} C_2(0) \\ C_2(1) \\ C_2(2) \\ C_2(3) \end{bmatrix} = \begin{bmatrix} C_1(0) & \overline{C_1(0)} \\ C_1(0) & \overline{C_1(0)} \\ C_1(1) & \overline{C_1(1)} \\ C_1(1) & \overline{C_1(1)} \end{bmatrix} = \begin{bmatrix} 1 & 1 & 1 & 1 \\ 1 & 1 & 0 & 0 \\ 1 & 0 & 1 & 0 \\ 1 & 0 & 0 & 1 \end{bmatrix}$$

$$\vdots$$

$$\begin{bmatrix} C_{n+1}(0) \\ C_{n+1}(1) \\ C_{n+1}(2) \\ C_{n+1}(3) \\ \vdots \\ C_{n+1}(2^{n+1}-2) \\ C_{n+1}(2^{n+1}-1) \end{bmatrix} = \begin{bmatrix} C_n(0) & \overline{C_n(0)} \\ C_n(0) & \overline{C_n(0)} \\ C_n(1) & \overline{C_n(1)} \\ C_n(1) & \overline{C_n(1)} \\ \vdots & \vdots \\ C_n(2^{n-1}) & \overline{C_n(2^{n-1})} \\ C_n(2^{n-1}) & \overline{C_n(2^{n-1})} \end{bmatrix}$$

FIG.20

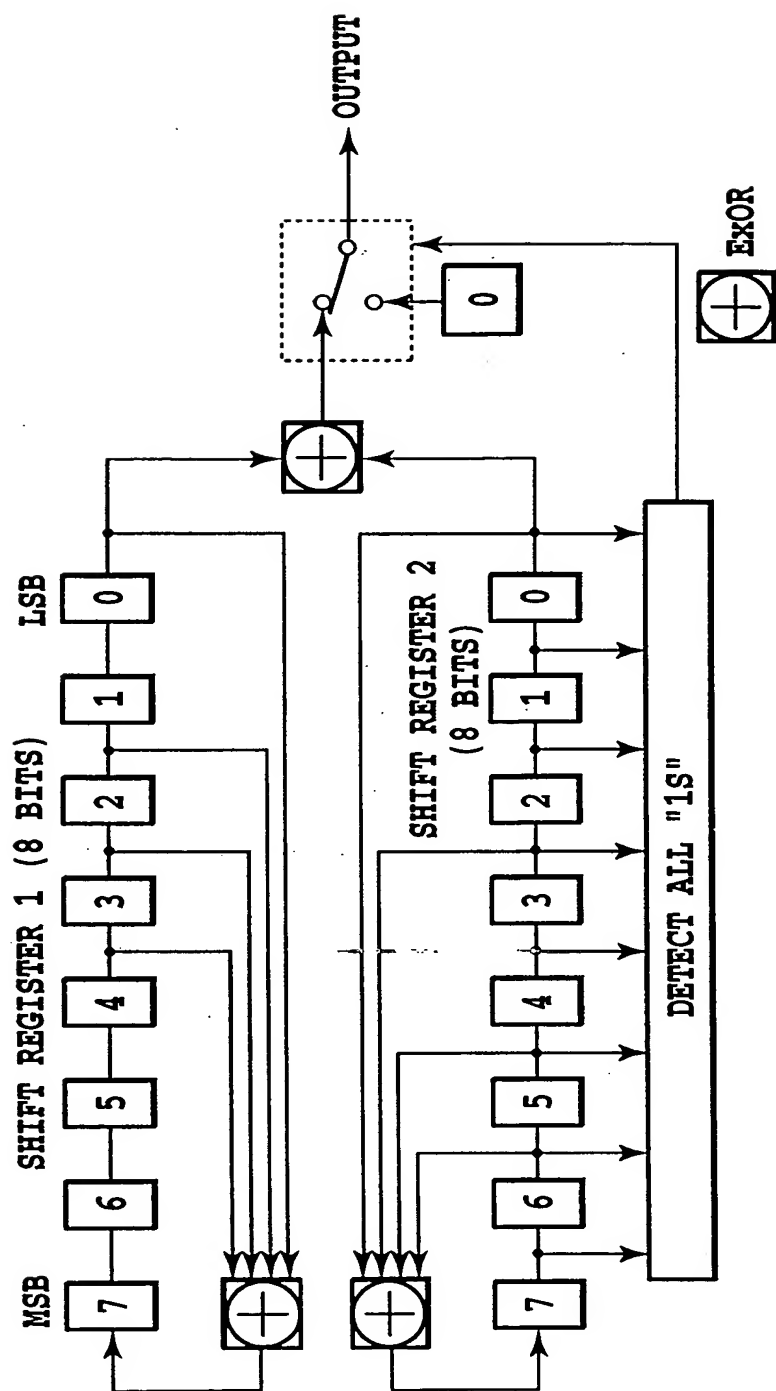


FIG.21

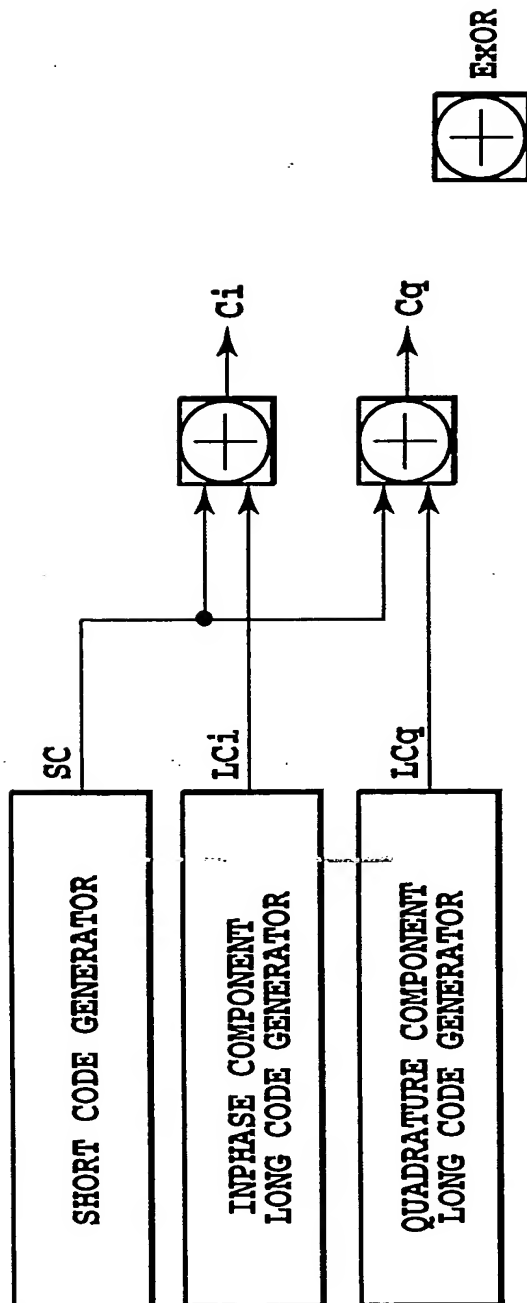


FIG.22

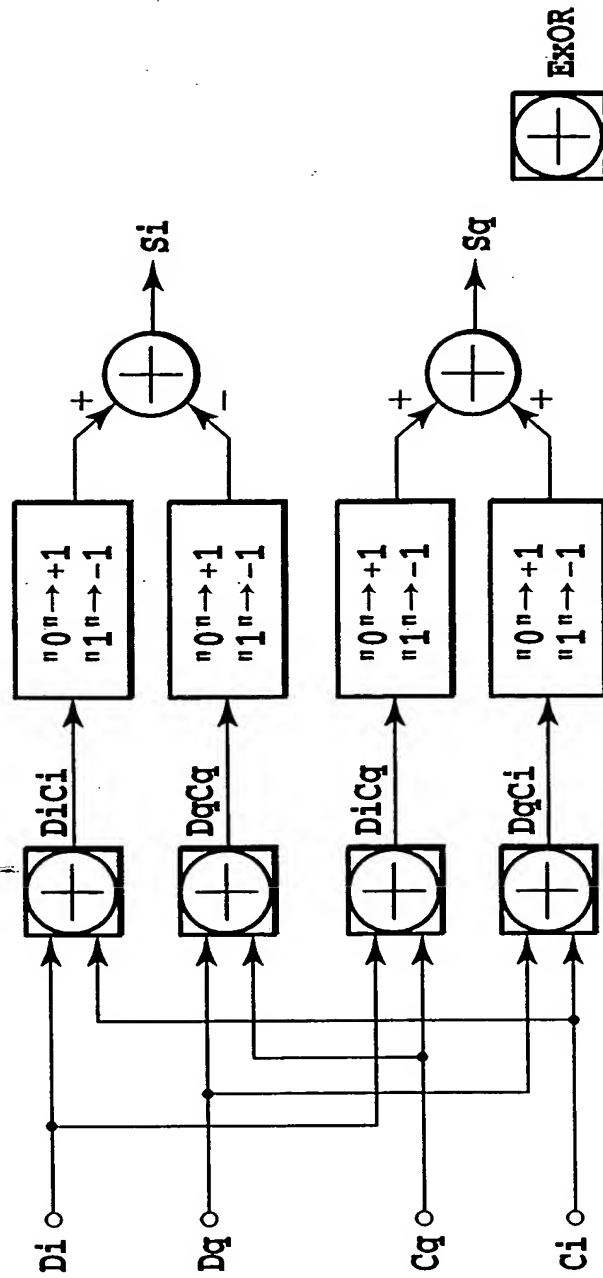


FIG.23

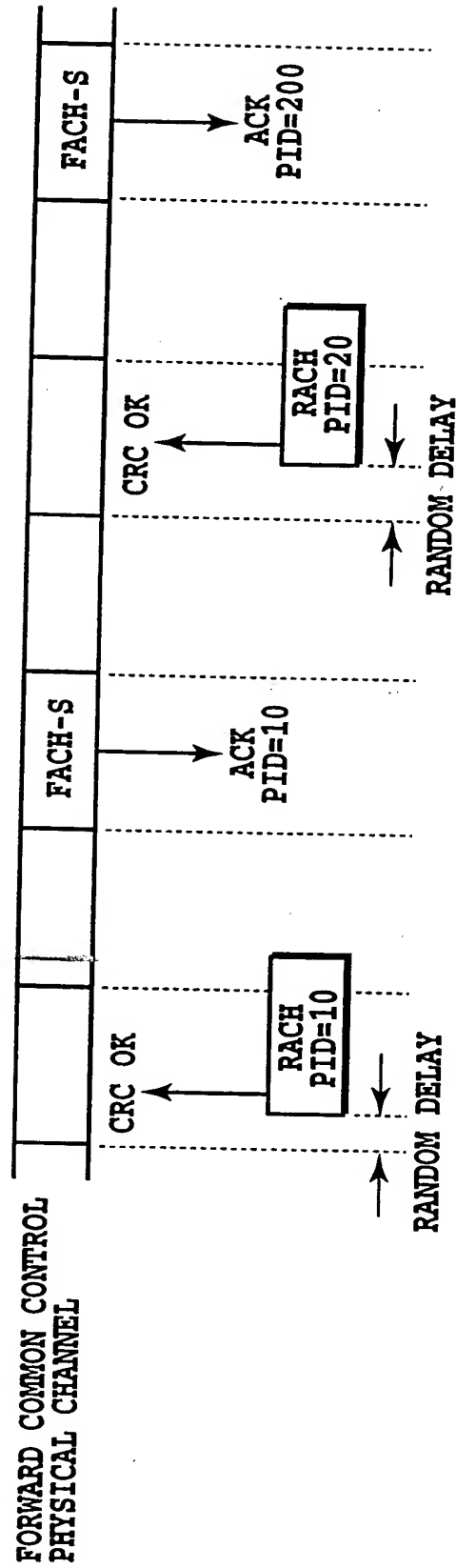


FIG.24

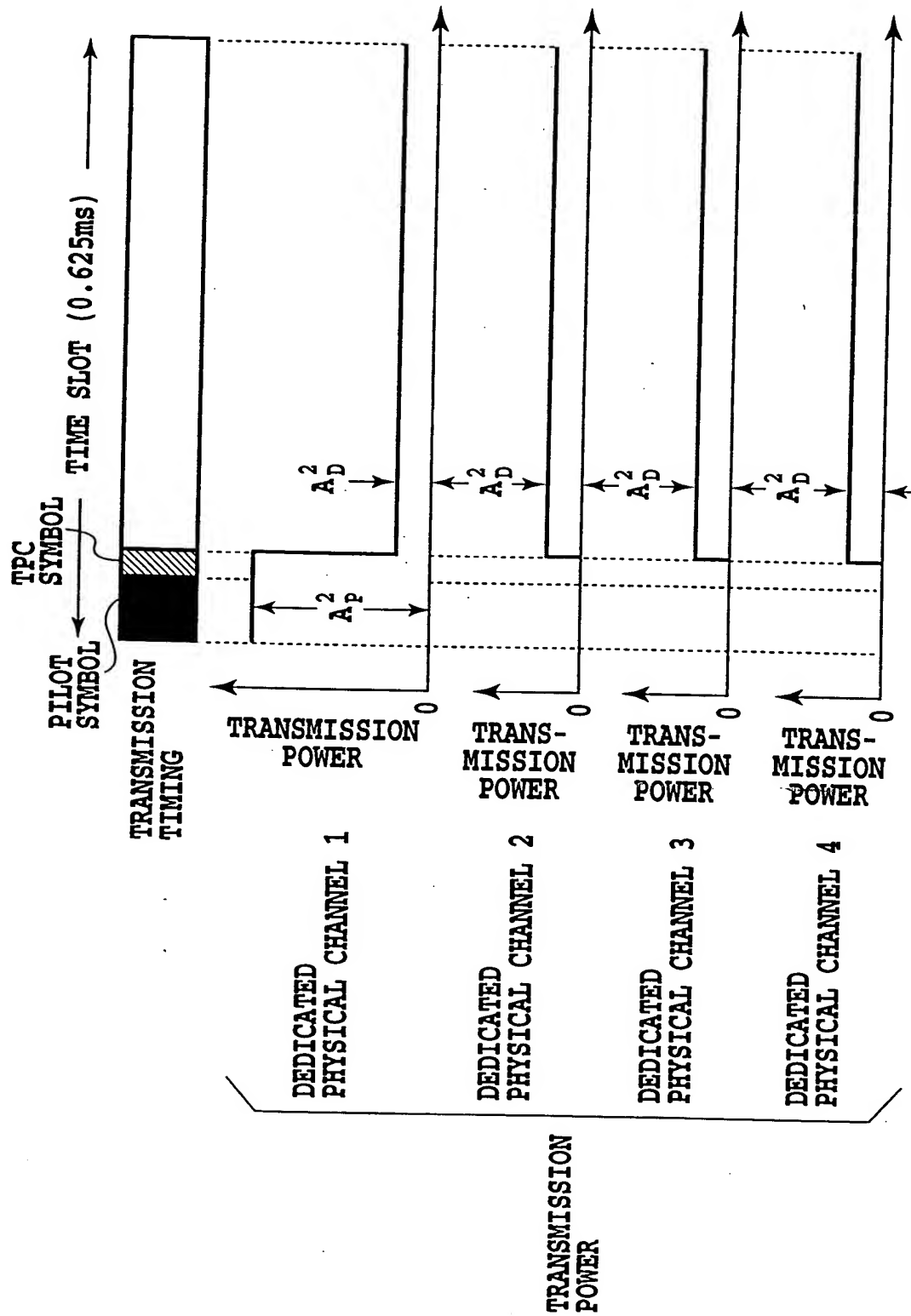


FIG.25

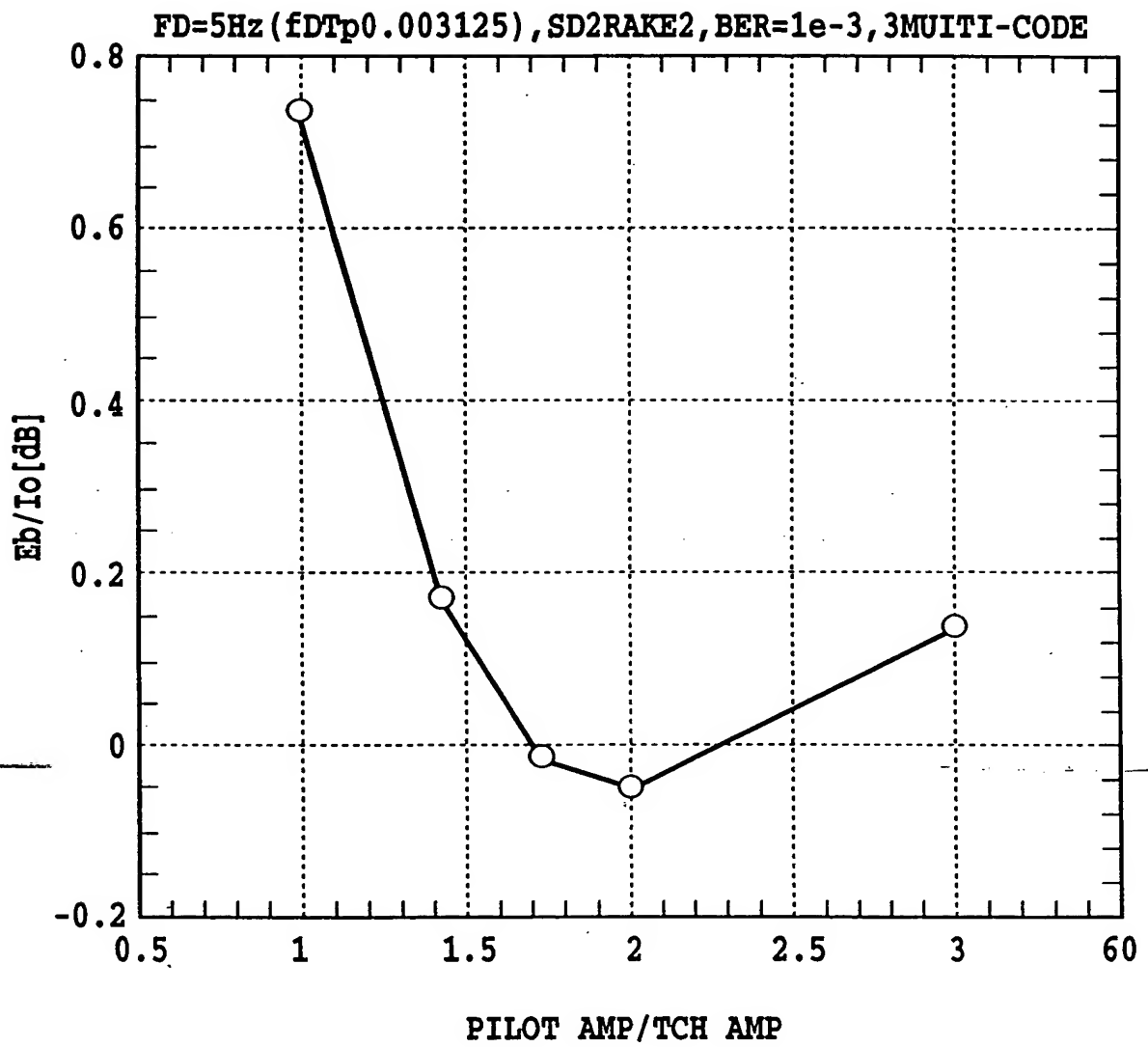


FIG.26

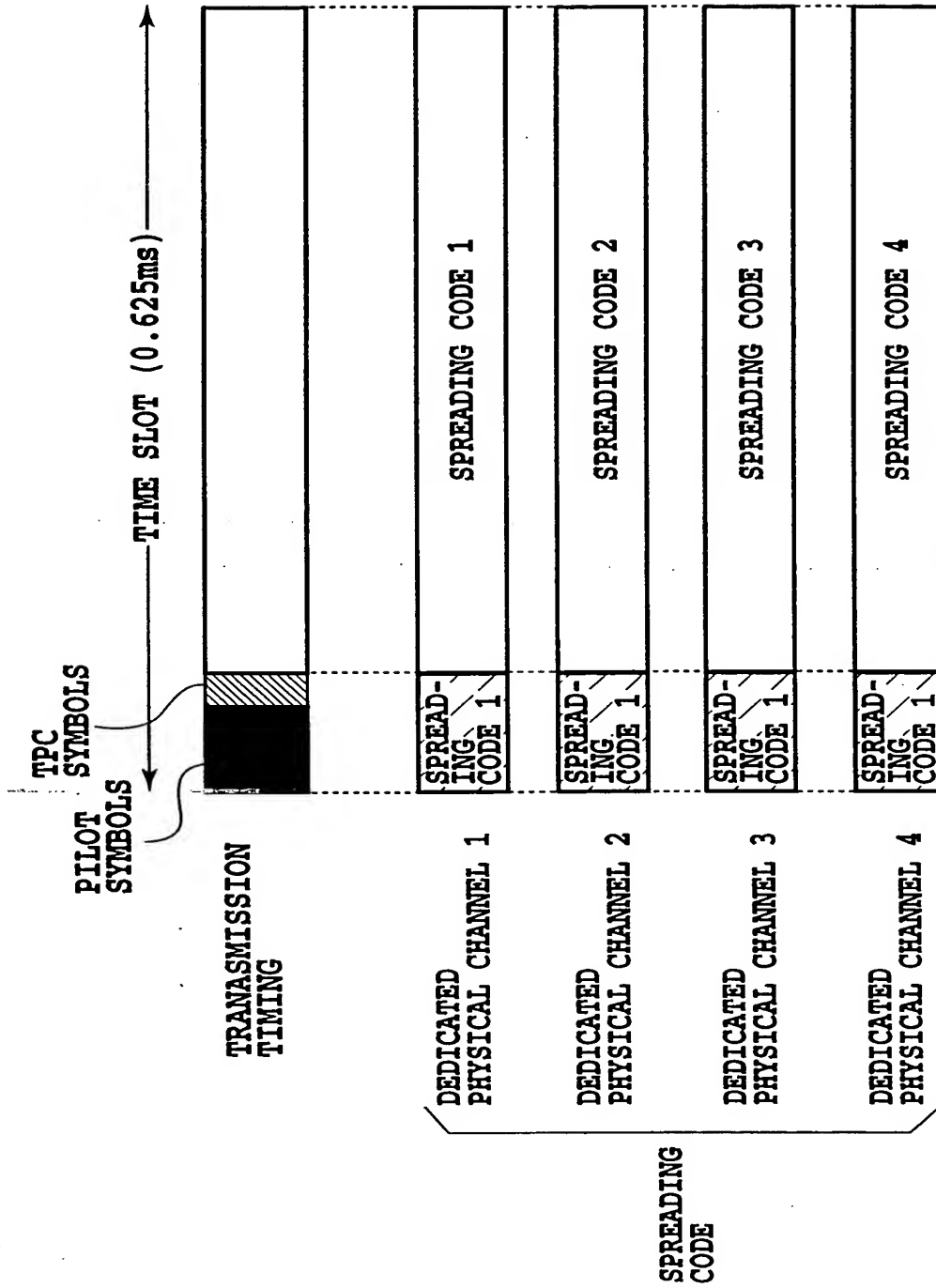


FIG.27

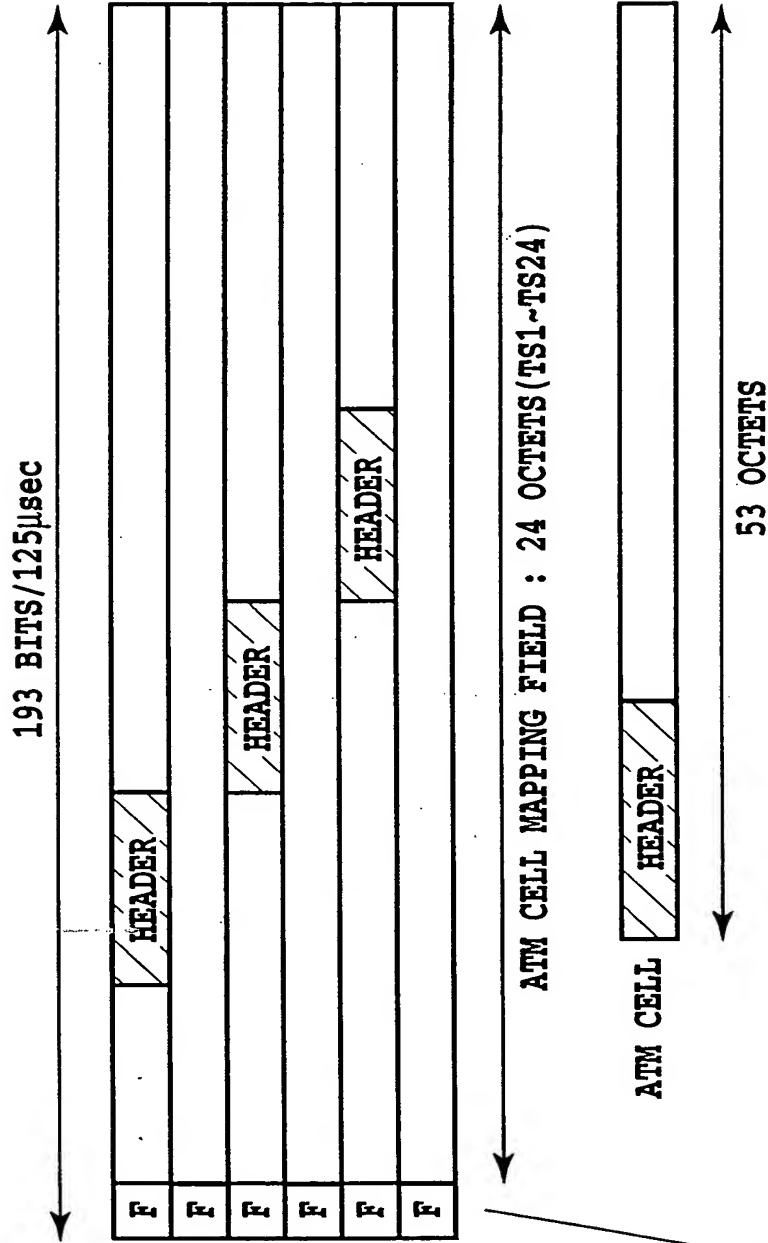


FIG.28A

PROVIDES F3 OAM FUNCTIONS:
 -DETECTION OF LOSS FRAME ALIGNMENT
 -PERFORMANCE MONITORING(CRC-6)
 -TRANSMISSION OF FERF AND LOC
 -PERFORMANCE REPORTING

FIG.28B

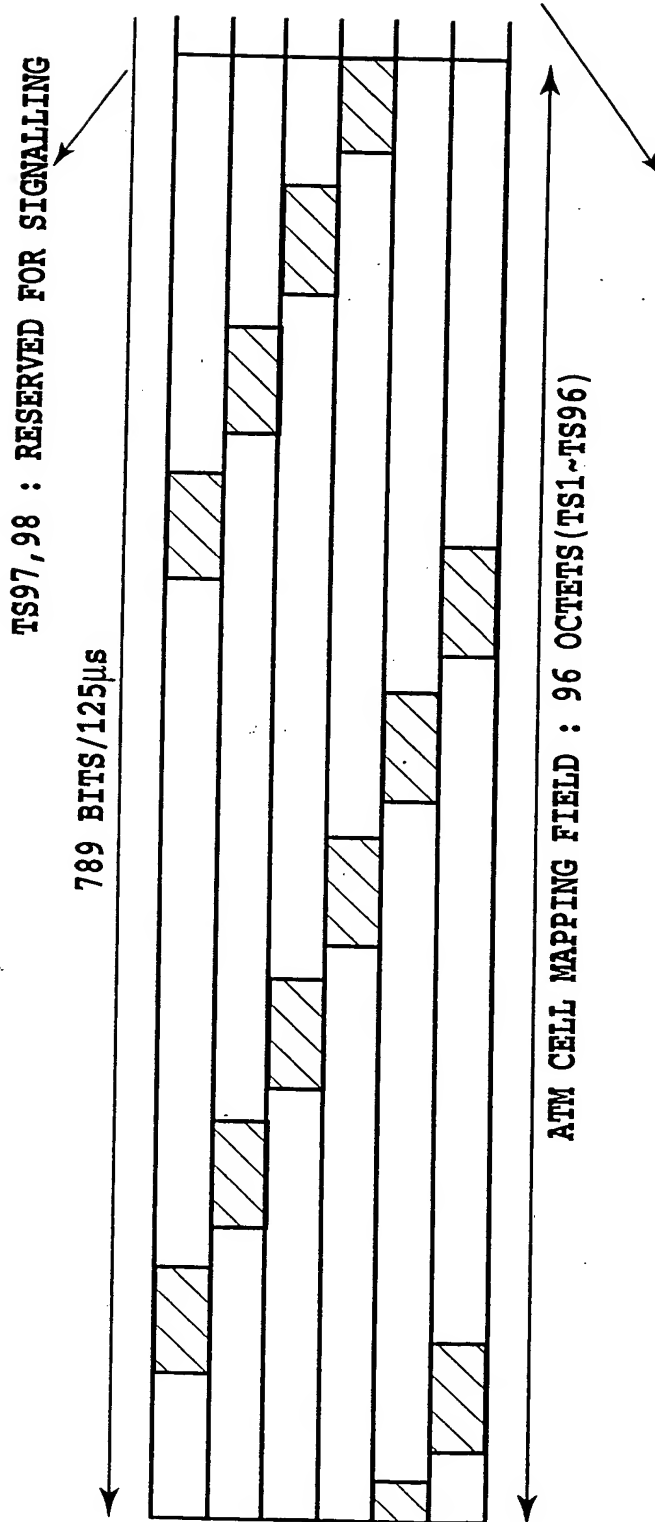


FIG.29A

PROVIDES F3 OAM FUNCTIONS:

- DETECTION OF LOSS FRAME ALIGNMENT
- PERFORMANCE MONITORING(CRC-5)
- TRANSMISSION OF FERF AND LOC
- PERFORMANCE REPORTING

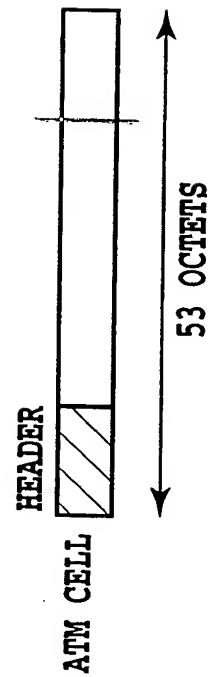
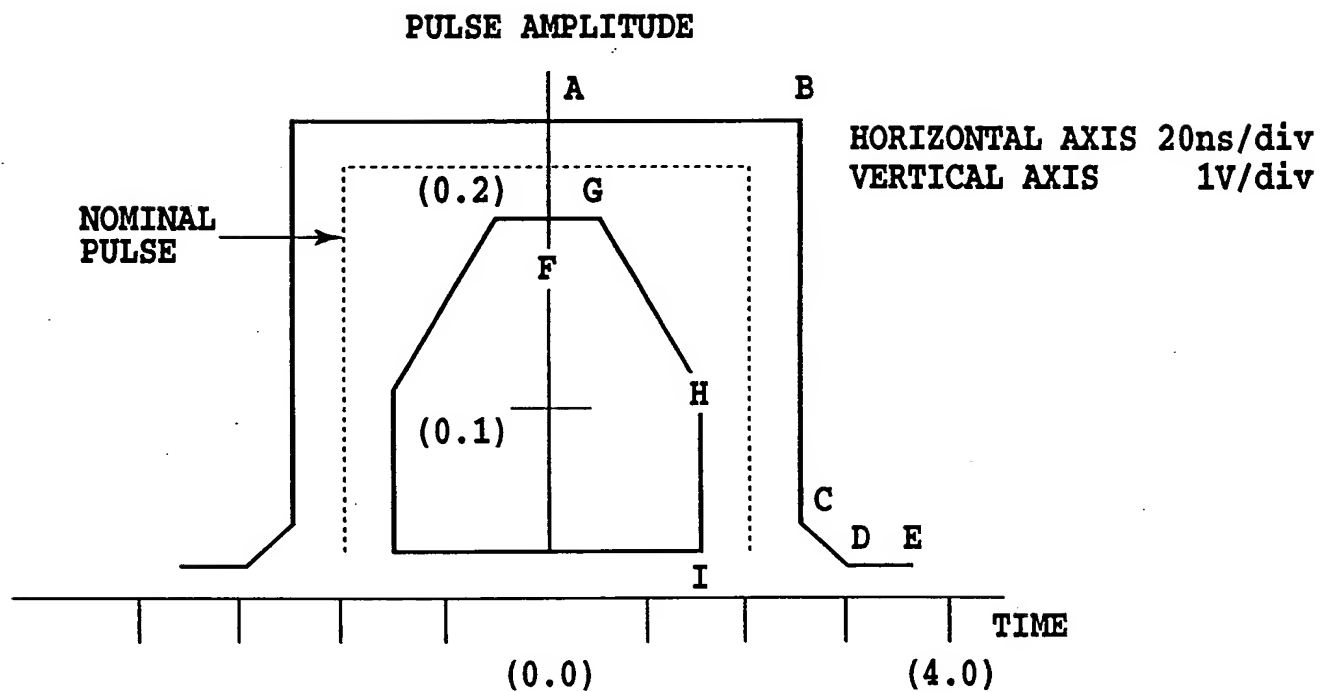


FIG.29B



**COORDINATES OF
INTERSECTION POINTS**

A : (0, 2.3)	F : (0, 1.7)
B : (2.4, 2.3)	G : (0.4, 1.7)
C : (2.4, 1.0)	H : (1.6, 0.9)
D : (3.2, 0.3)	I : (1.6, 0.3)
E : (4.0, 0.3)	

FIG.30

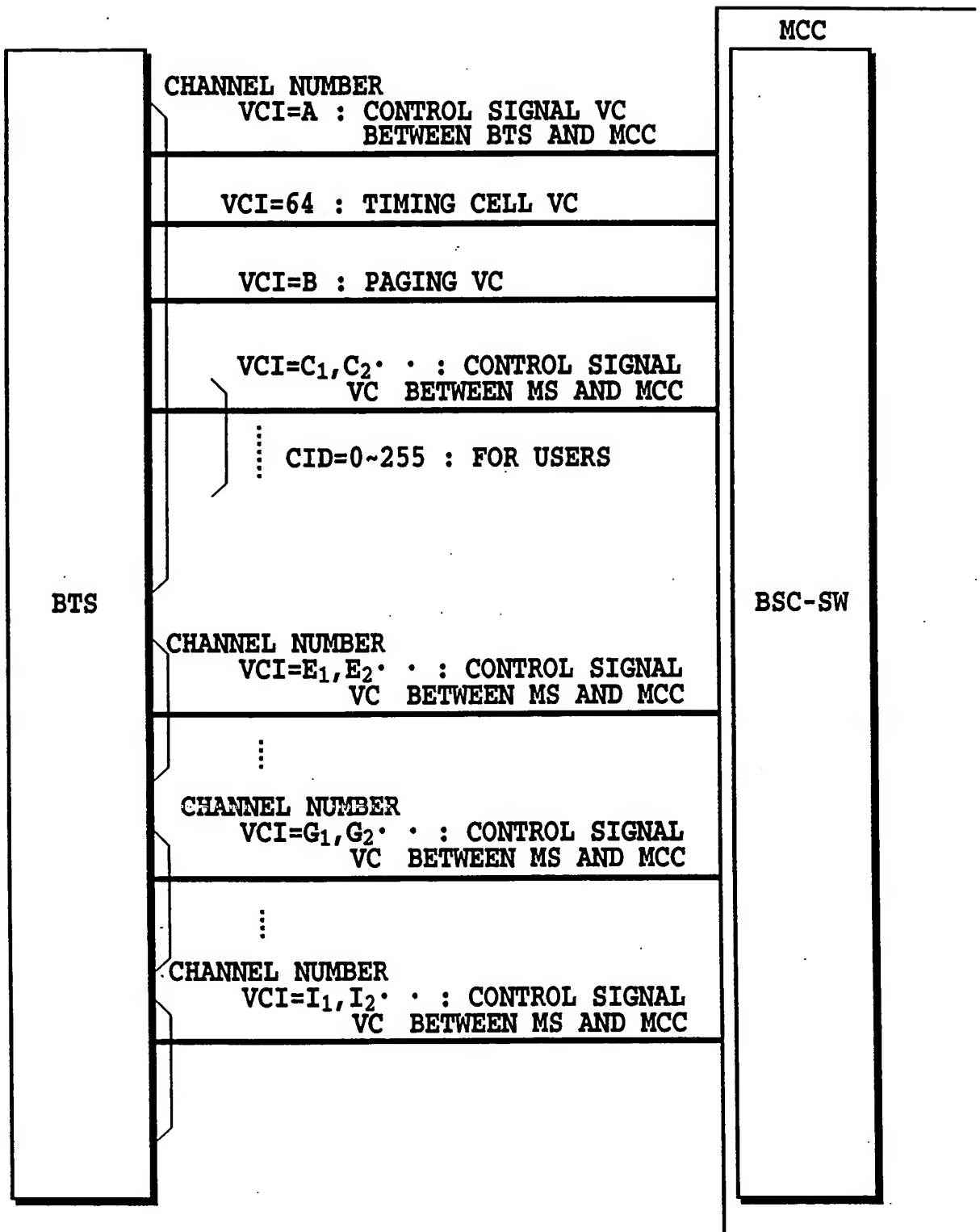


FIG.31

	BIT	8	0	
OCT 1			00H	CELL HEADER
OCT 2			00H	
OCT 3			00H	
OCT 4			01H	
OCT 5			52H	
OCT 6			6AH	
OCT 1			6AH	

FIG.32

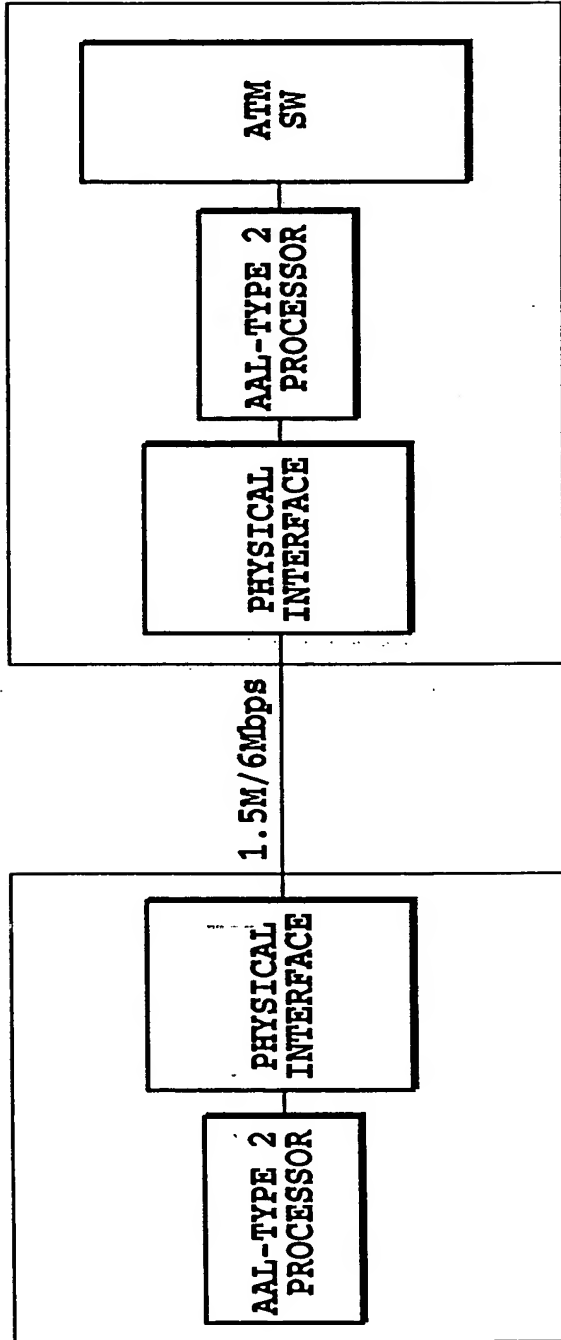


FIG.33A

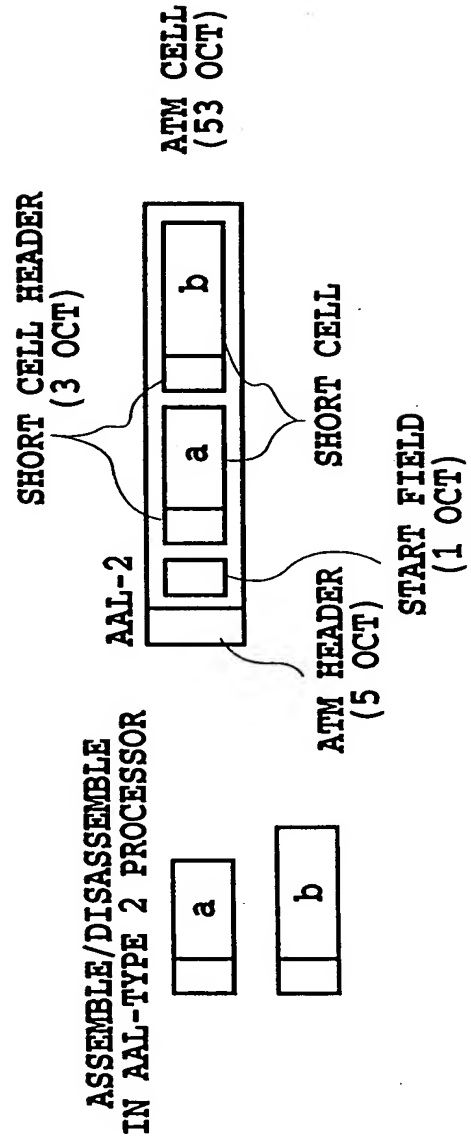


FIG.33B

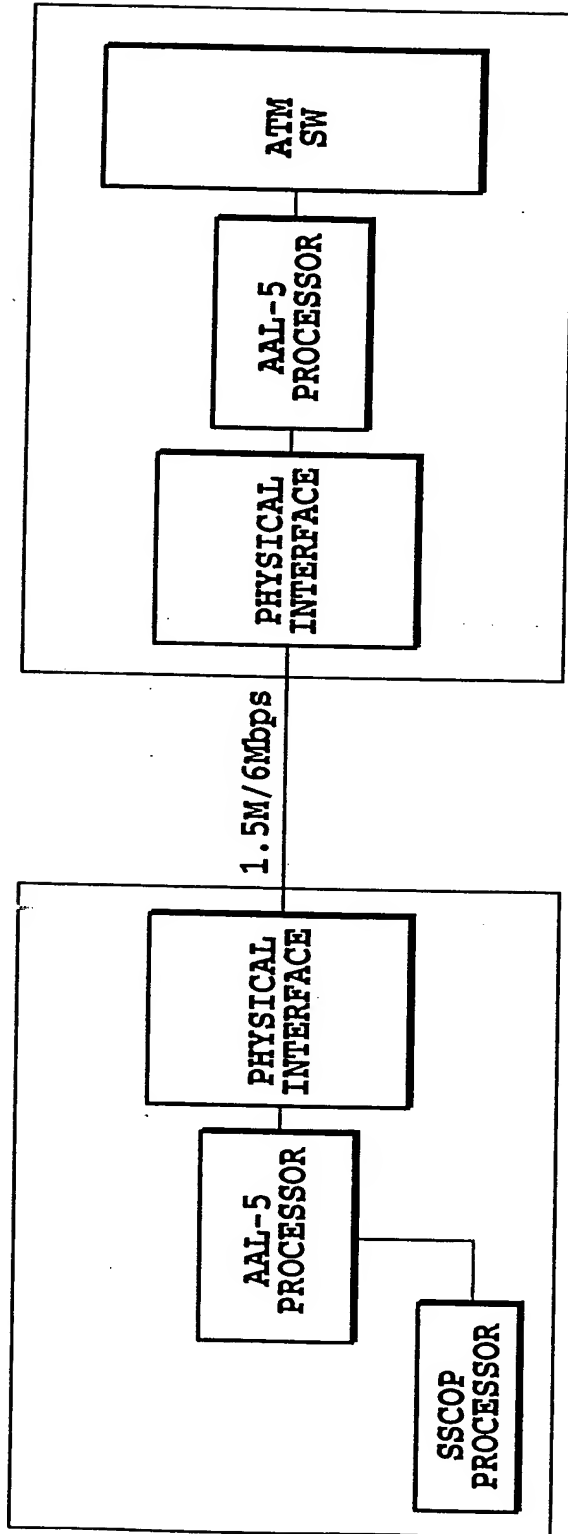


FIG.34A

ASSEMBLE/DISASSEMBLE
IN AAL-5 PROCESSOR

AAL-5

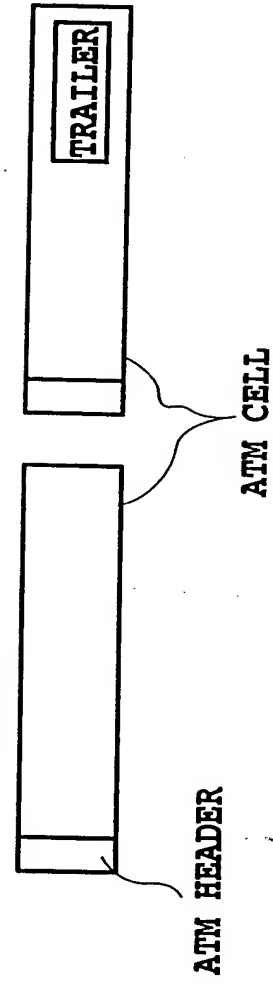
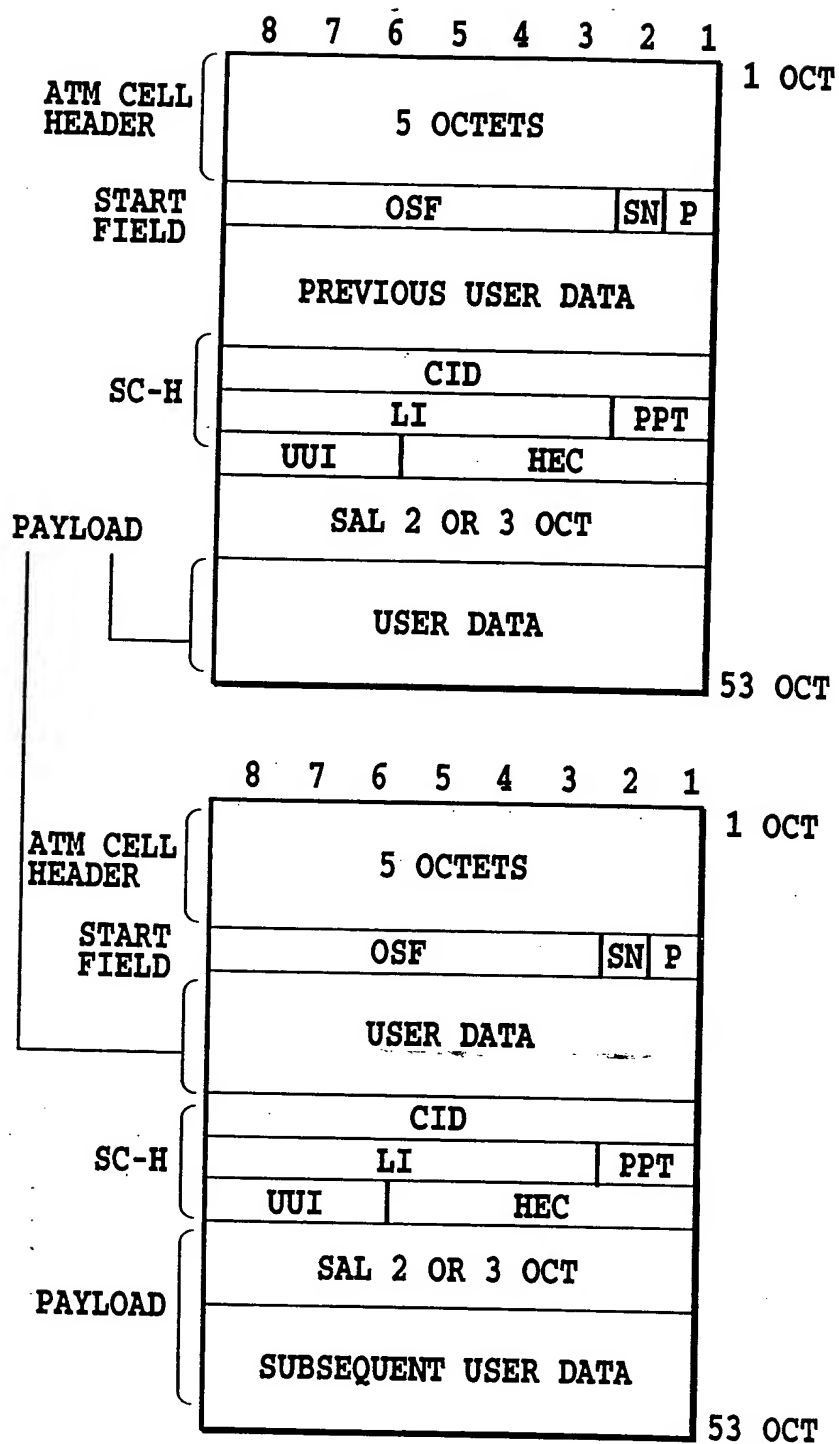


FIG.34B

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- START FIELD (1 OCTET)
- OSF: OFFSET FIELD

FIG.35

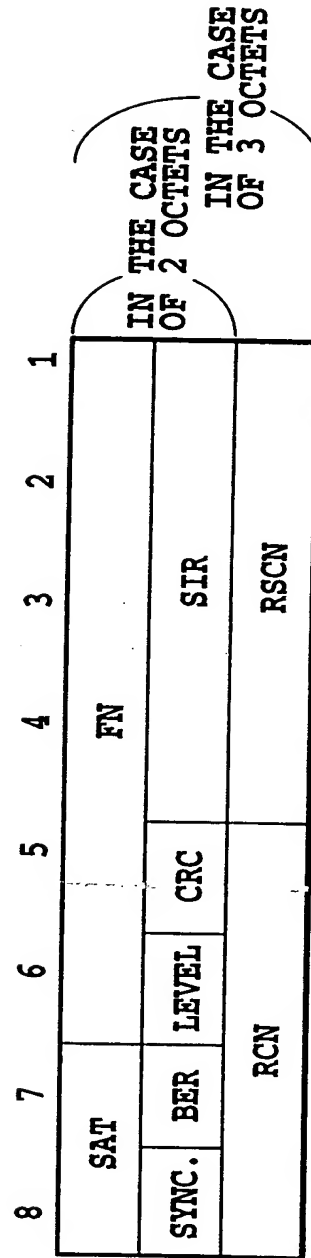


FIG.36

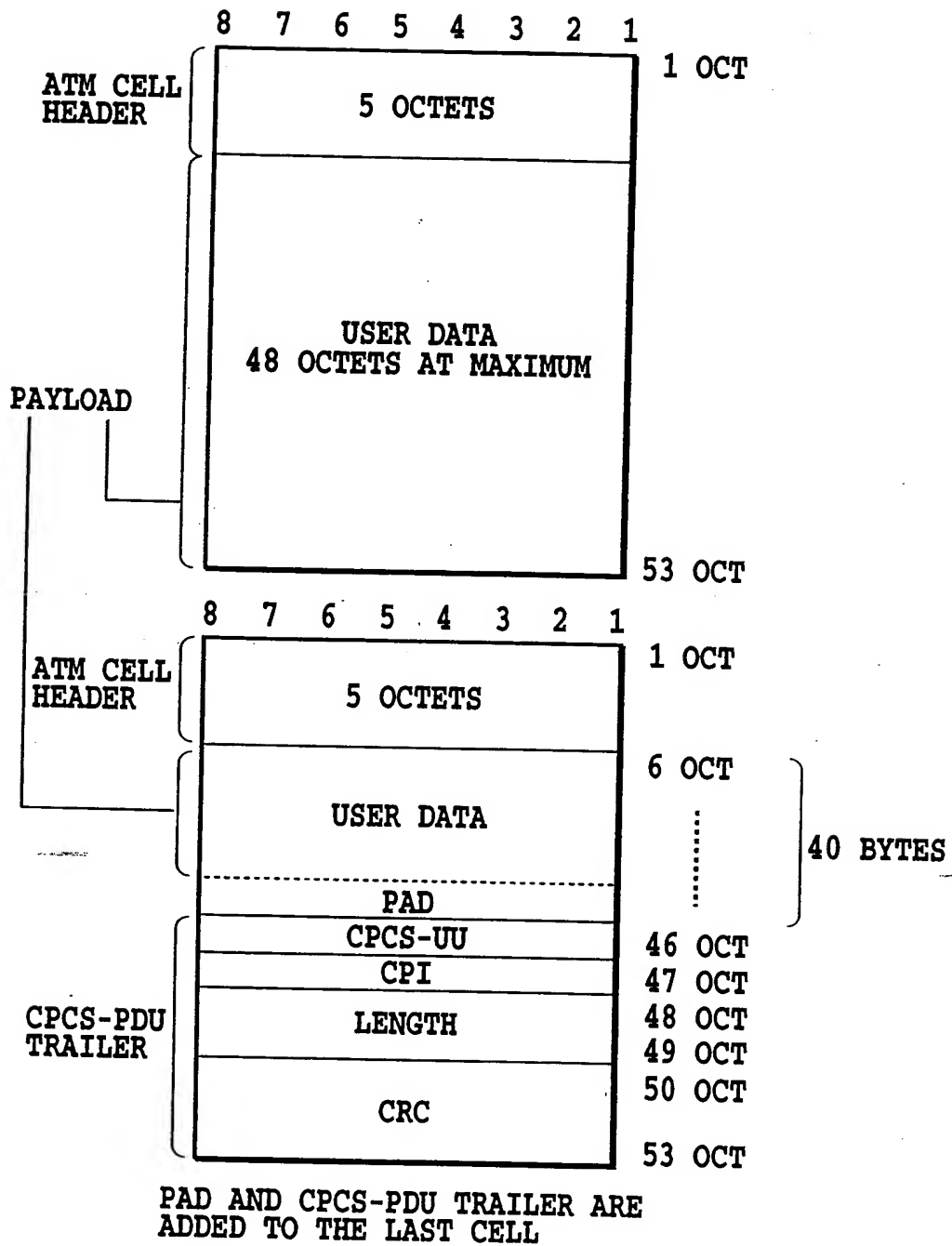


FIG.37

FIG.38

FIG.38A

FIG.38B

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ATM HEADER

VPI		
VCI		
PTI		CLP
HEC		
MESSAGE ID		
NUMBER OF TIMES OF CORRECTIONS (1 OCTET)		
CORRECTION RANGE (1 OCTET)		
TRANSMISSION DELAY (2 OCTET)		
SF TIME INFORMATION (RECEPTION) (MASTER SIDE) (2 OCTETS)		
SF TIME INFORMATION (TRANSMISSION) (MASTER SIDE) (2 OCTETS)		

FIG.38A

SF TIME INFORMATION (RECEPTION) (SLAVE SIDE) (2 OCTETS)
SF TIME INFORMATION (TRANSMISSION) (SLAVE SIDE) (2 OCTETS)
SF PHASE SHIFT VALUE (2 OCTETS)
LC COUNTER INFORMATION (RECEPTION) (MASTER SIDE) (3 OCTETS)
LC COUNTER INFORMATION (TRANSMISSION) (MASTER SIDE) (3 OCTETS)
LC COUNTER INFORMATION (RECEPTION) (SLAVE SIDE) (3 OCTETS)
LC COUNTER INFORMATION (TRANSMISSION) (SLAVE SIDE) (3 OCTETS)
LC COUNTER SHIFT VALUE (3 OCTETS)
UNUSED (6A (h))
000000
CRC-10

FIG.38B

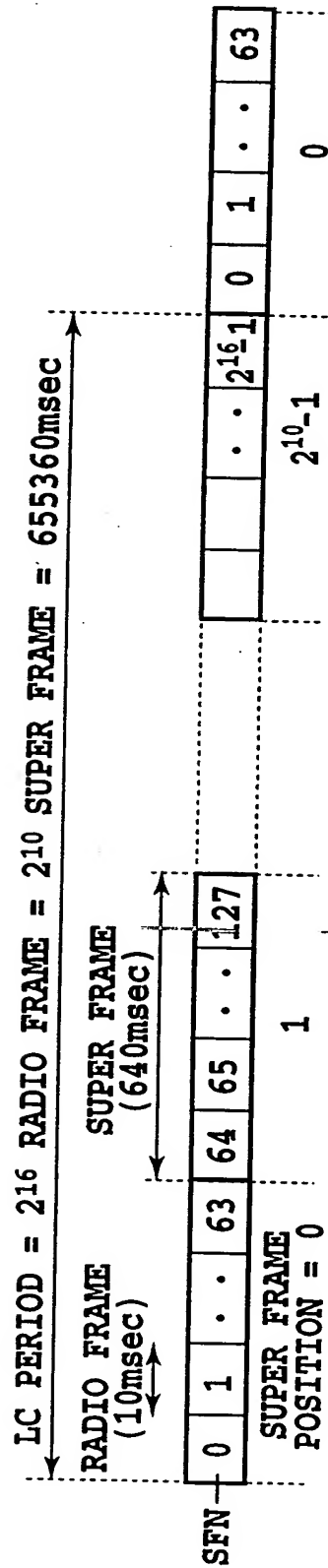


FIG.39

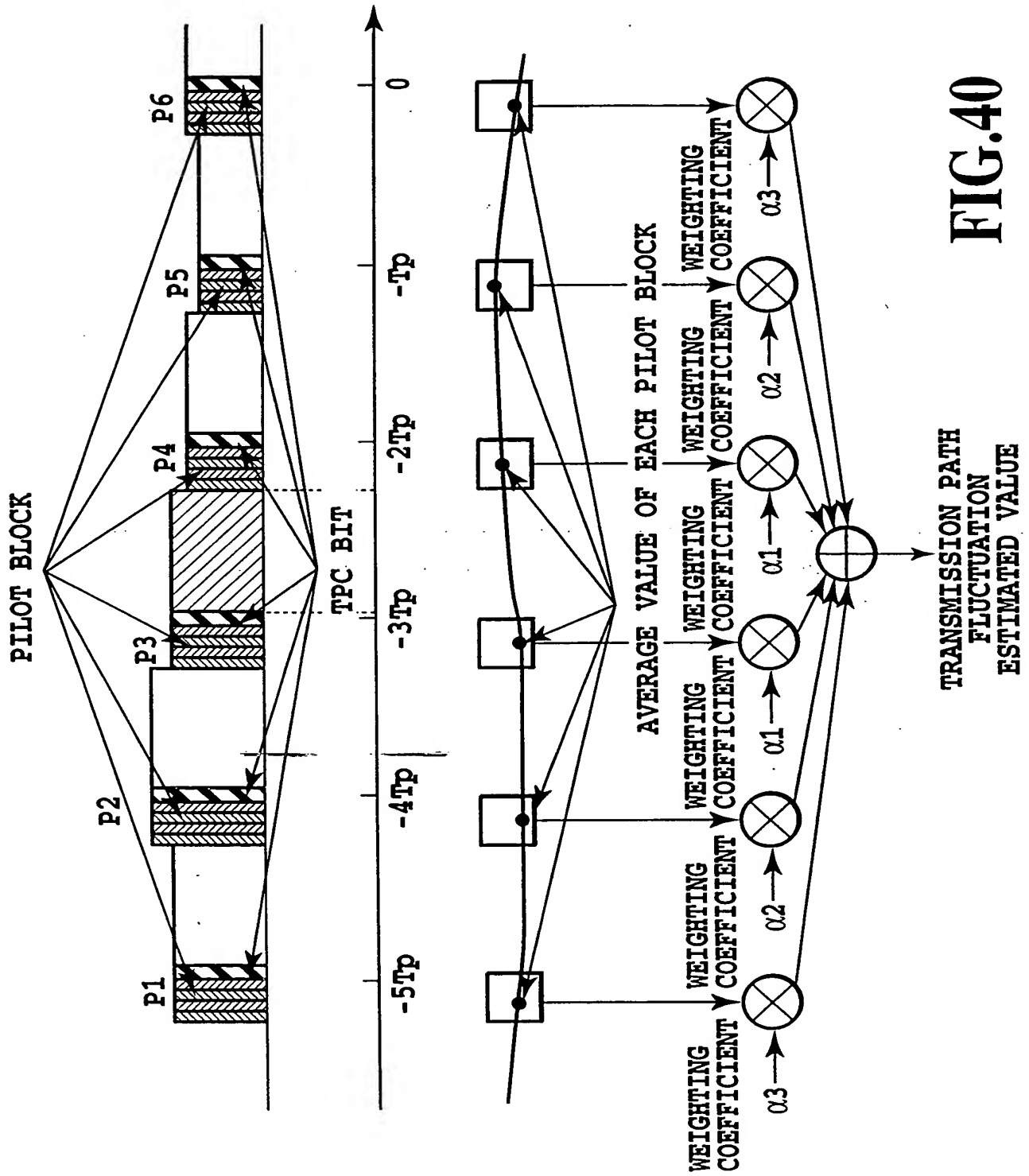
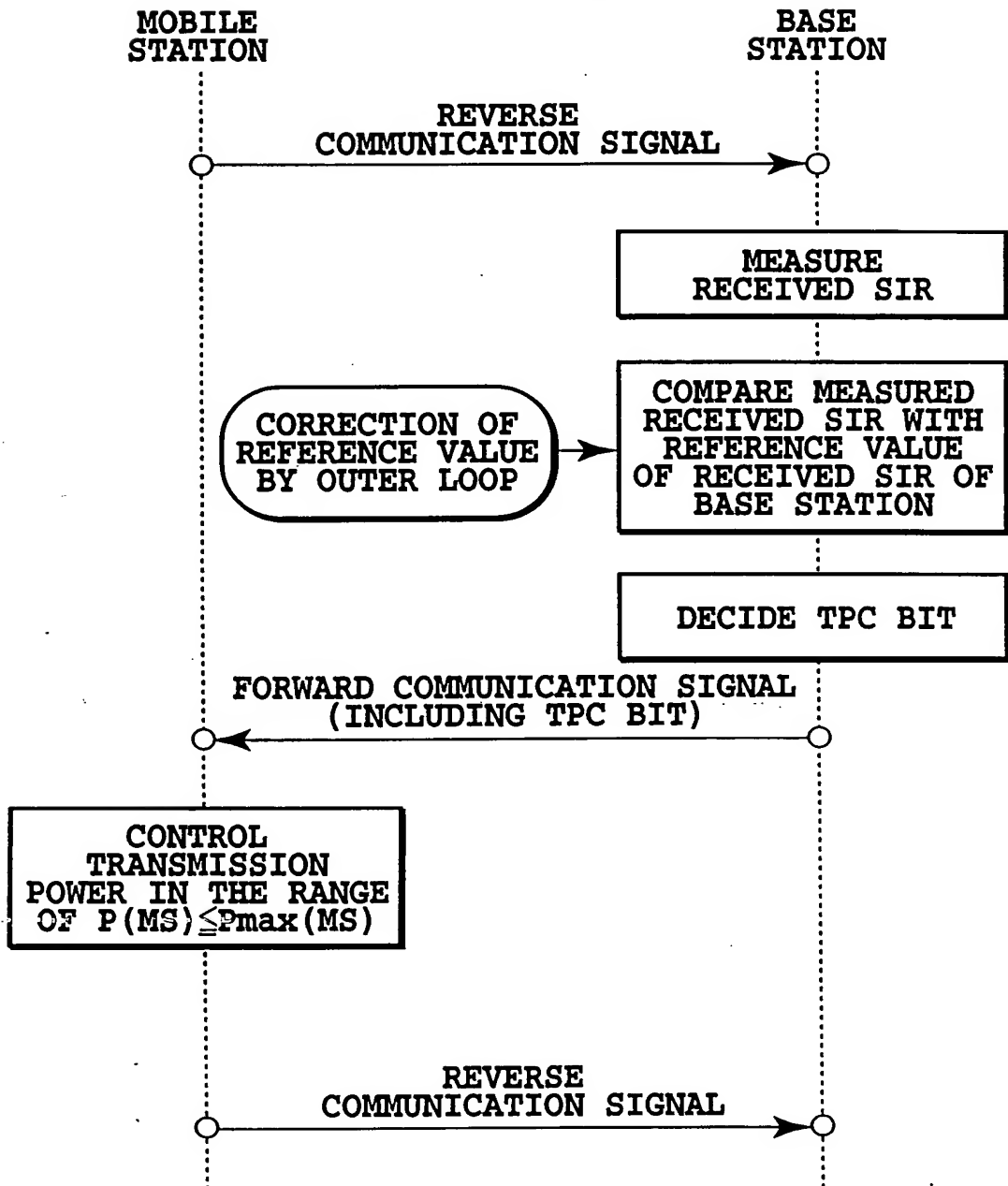


FIG.40

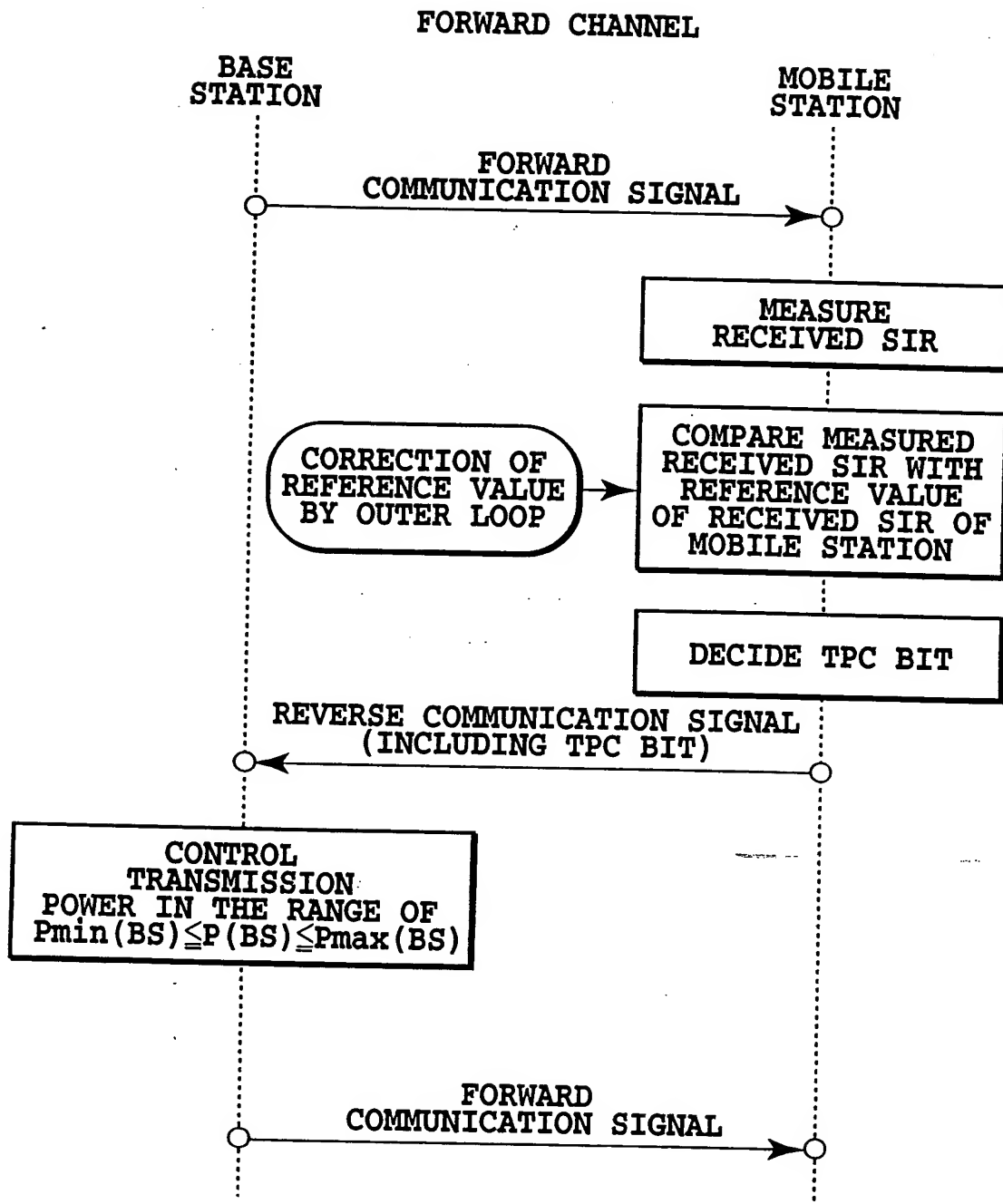
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REVERSE CHANNEL



$P(MS)$. . . REVERSE TRANSMISSION POWER
 $P_{max}(MS)$. . . MAXIMUM REVERSE TRANSMISSION POWER
 $P(BS)$. . . FORWARD TRANSMISSION POWER
 $P_{max}(BS)$. . . MAXIMUM FORWARD TRANSMISSION POWER
 $P_{min}(BS)$. . . MINIMUM FORWARD TRANSMISSION POWER

FIG.41A

**FIG.41B**

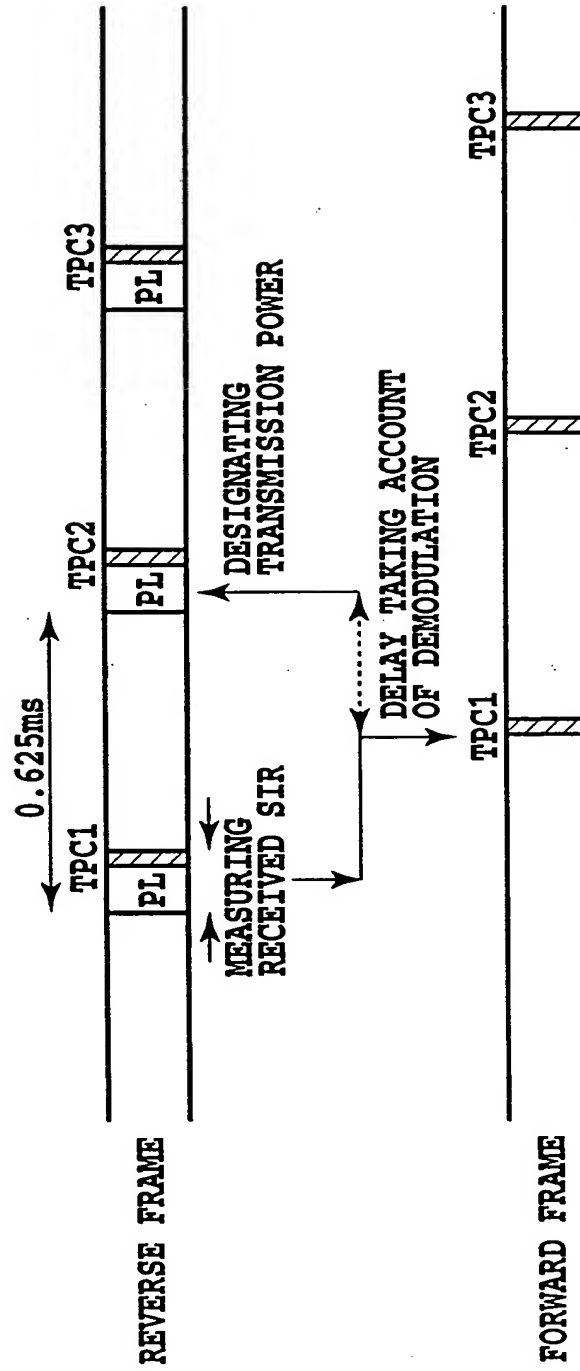


FIG.42

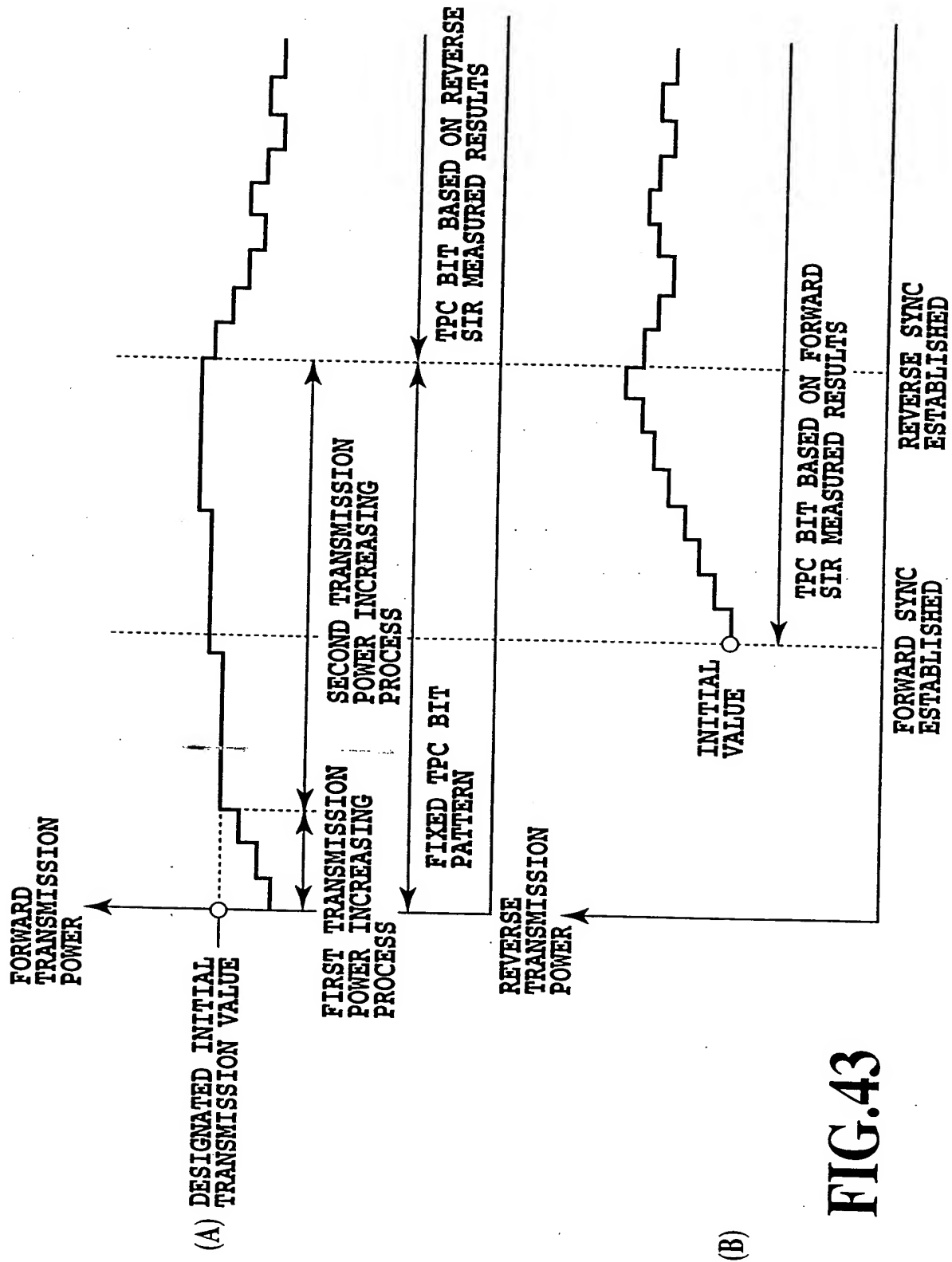


FIG.43

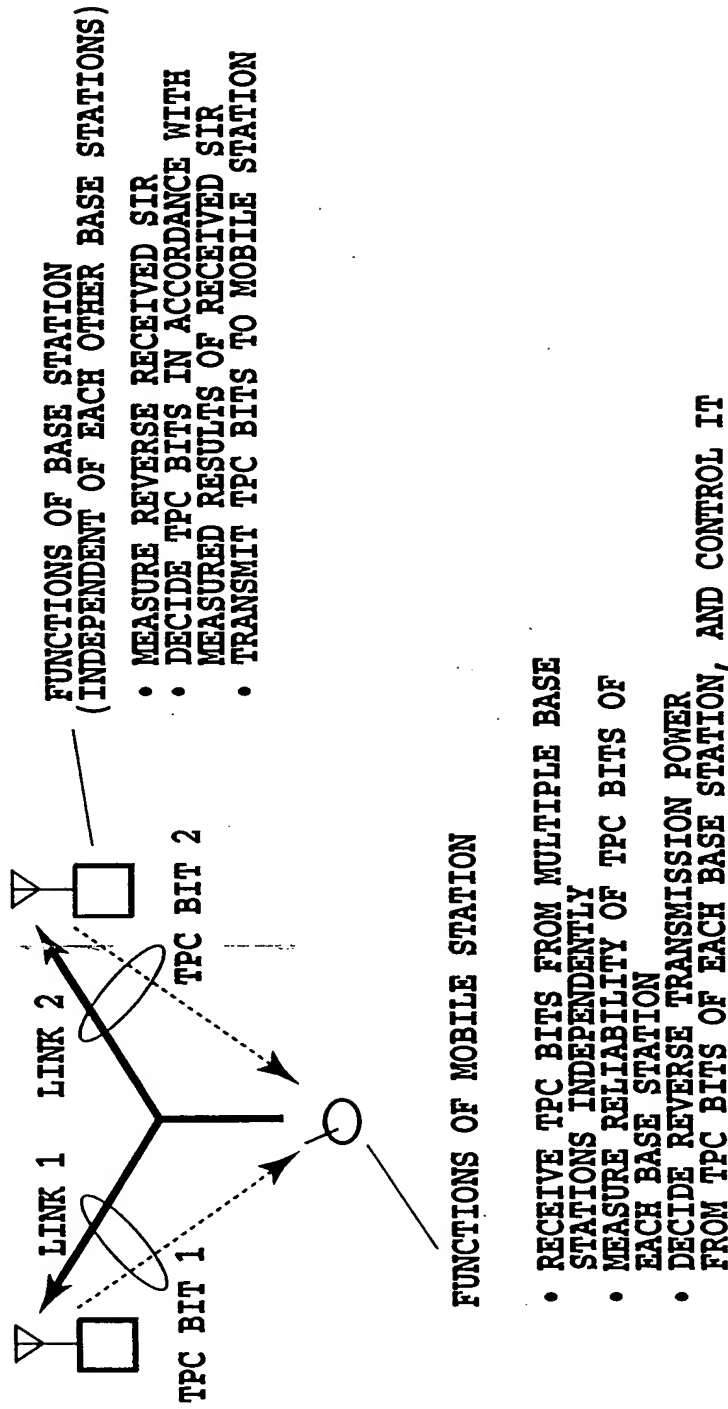


FIG.44

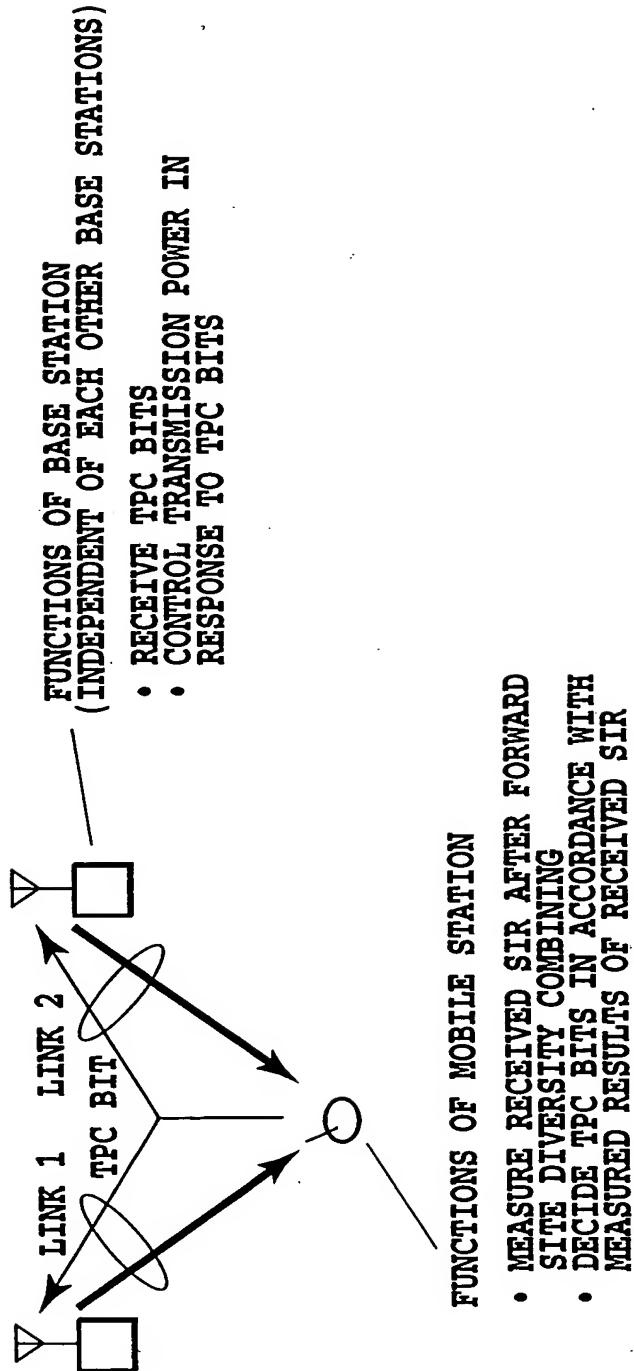


FIG.45

FIG.46

FIG.46A

FIG.46B

BASE STATION

START FORWARD DEDICATED CHANNEL TRANSMISSION

- INCREASE TRANSMISSION POWER GRADUALLY SO THAT OTHER USERS ARE UNAFFECTED (FIRST TRANSMISSION POWER INCREASING PROCESS)
- INFORMATION BITS CONSIST OF IDLE PATTERN (SEE, 4.1.10)
- TPC BITS ARE CONTROLLED IN ACCORDANCE WITH GRADUALLY INCREASING FIXED PATTERN

START REVERSE SYNC ESTABLISHMENT

CHIP SYNC ESTABLISHMENT

DECIDE FRAME ALIGNMENT
(WITH DETECTING SW)

REVERSE SYNC IS ESTABLISHED

DECIDE TPC BIT IN RESPONSE TO MEASURED RESULT OF REVERSE SIR

MOBILE STATION

START FORWARD SYNC ESTABLISHMENT

CHIP SYNC ESTABLISHMENT

DECIDE FRAME ALIGNMENT
(WITH DETECTING SW)

FORWARD SYNC IS ESTABLISHED

START REVERSE DEDICATED CHANNEL TRANSMISSION

- INFORMATION BITS CONSIST OF IDLE PATTERN (SEE, 4.1.10)
- TRANSMISSION POWER IS DECIDED ACCORDING TO TPC BITS TRANSMITTED FROM BASE STATION
- TPC BITS ARE DECIDED IN ACCORDANCE WITH MEASURED RESULTS OF FORWARD SIR

FIG.46A

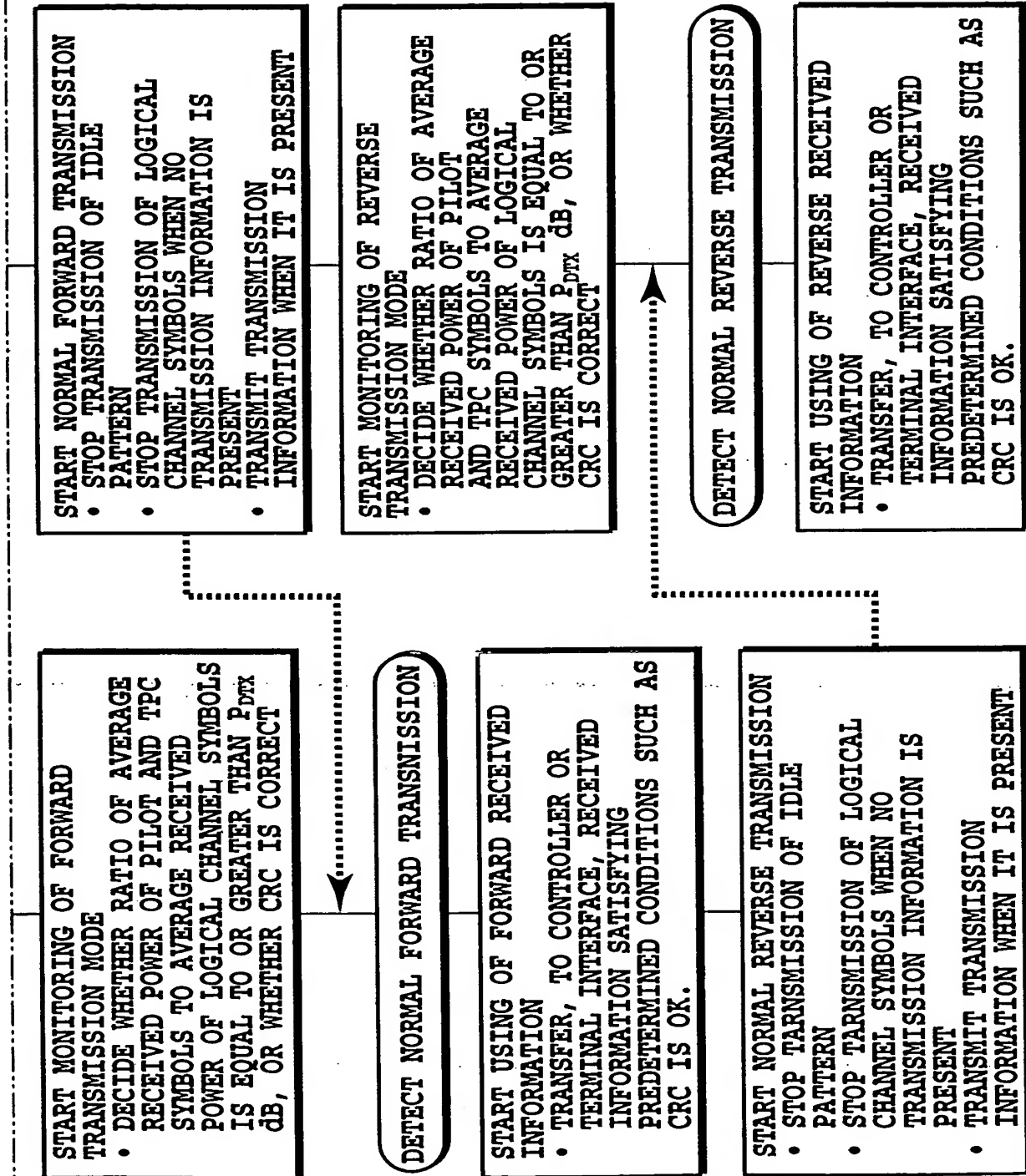


FIG. 46B

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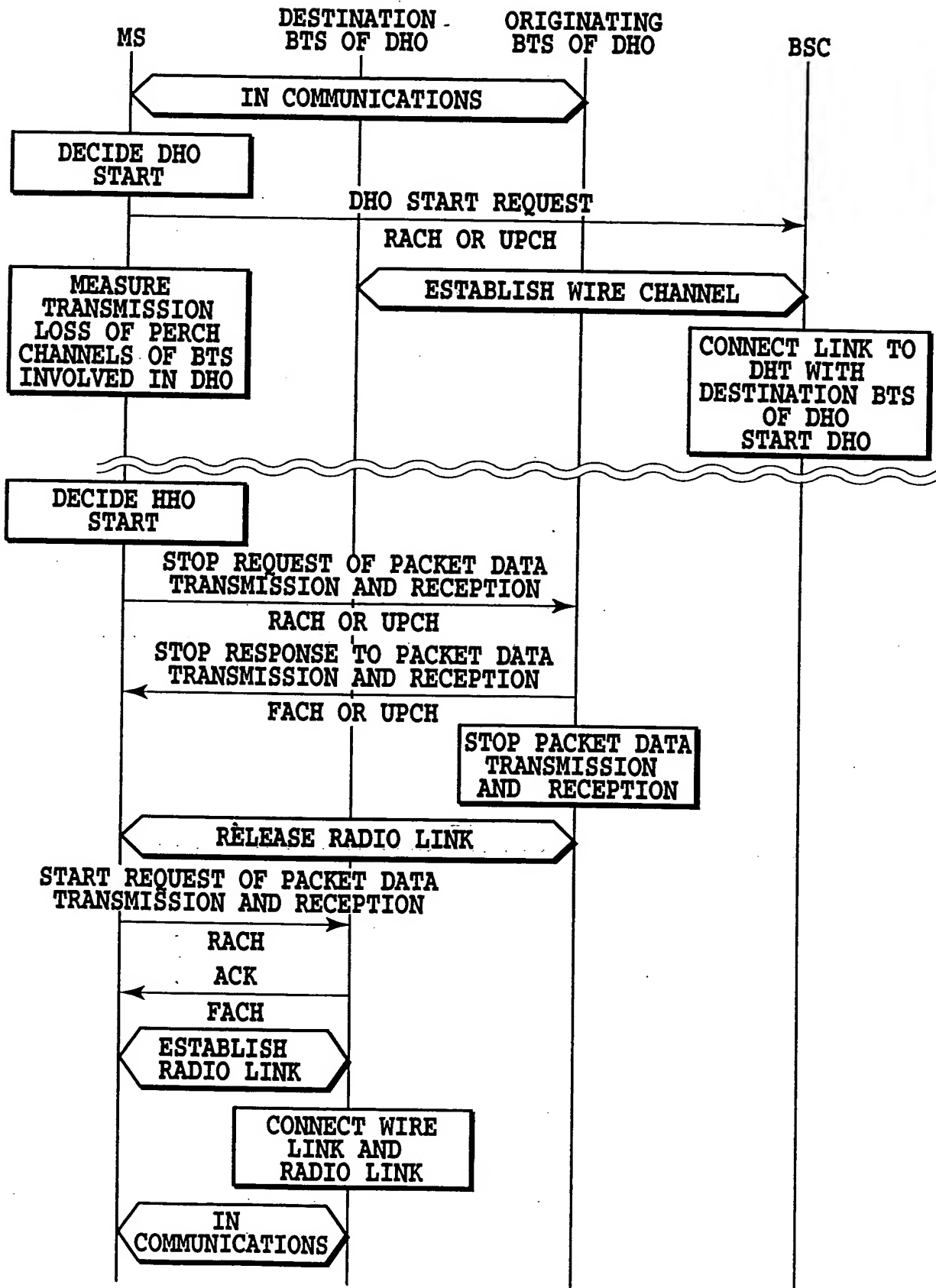
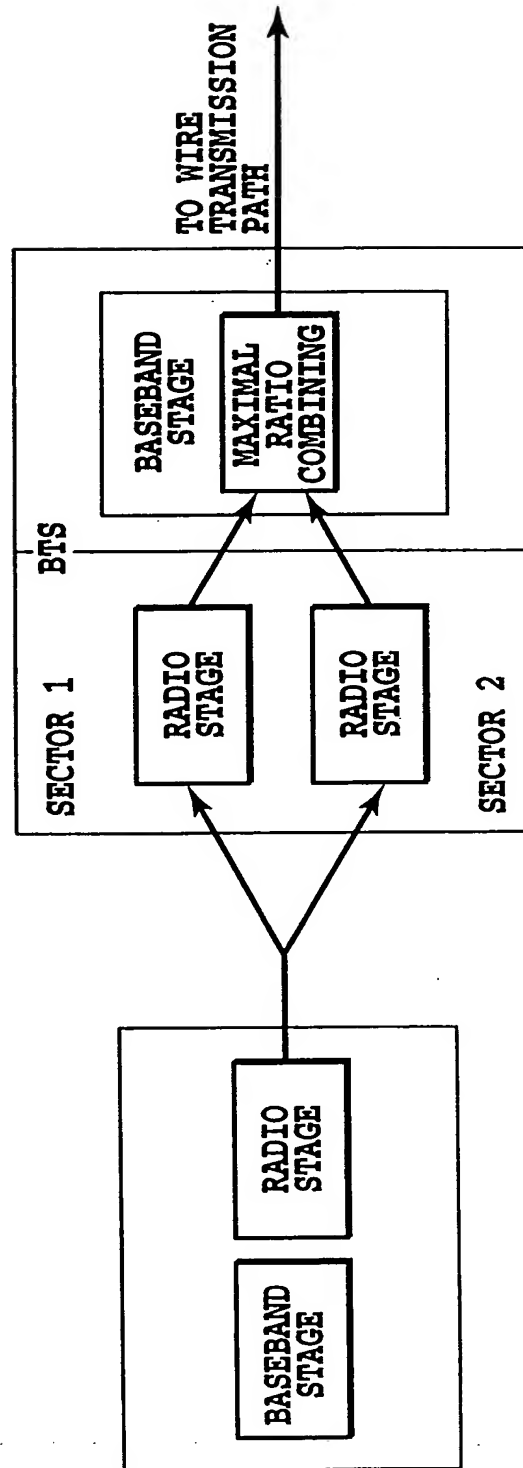
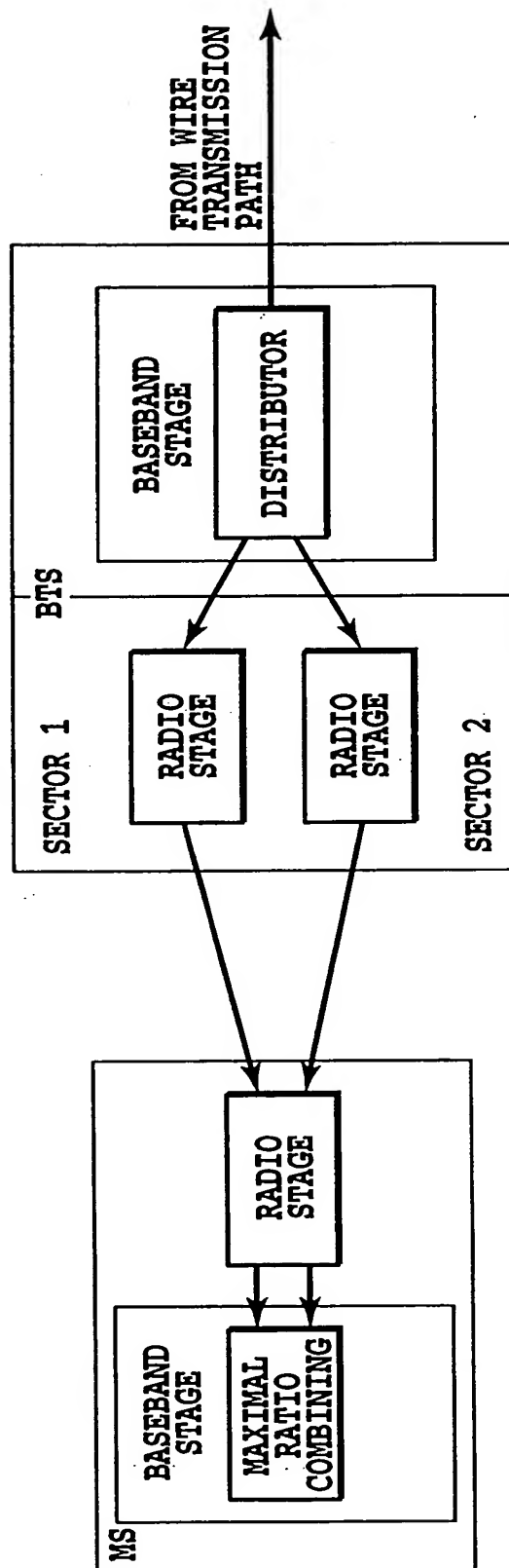


FIG.47



REVERSE DEDICATED PHYSICAL CHANNEL (UPCH)

FIG.48



FORWARD DEDICATED PHYSICAL CHANNEL (FDPCH)

FIG.49

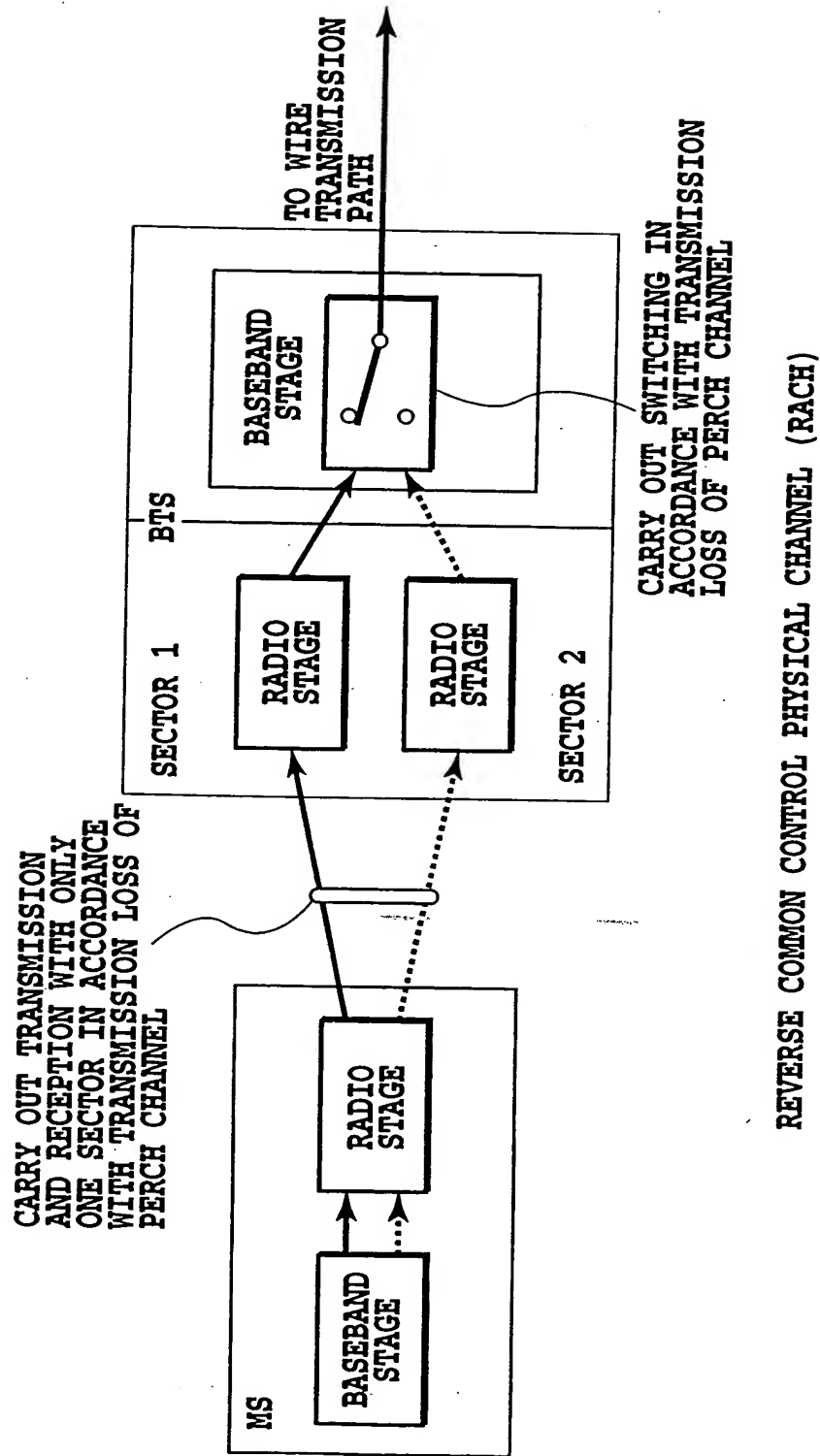
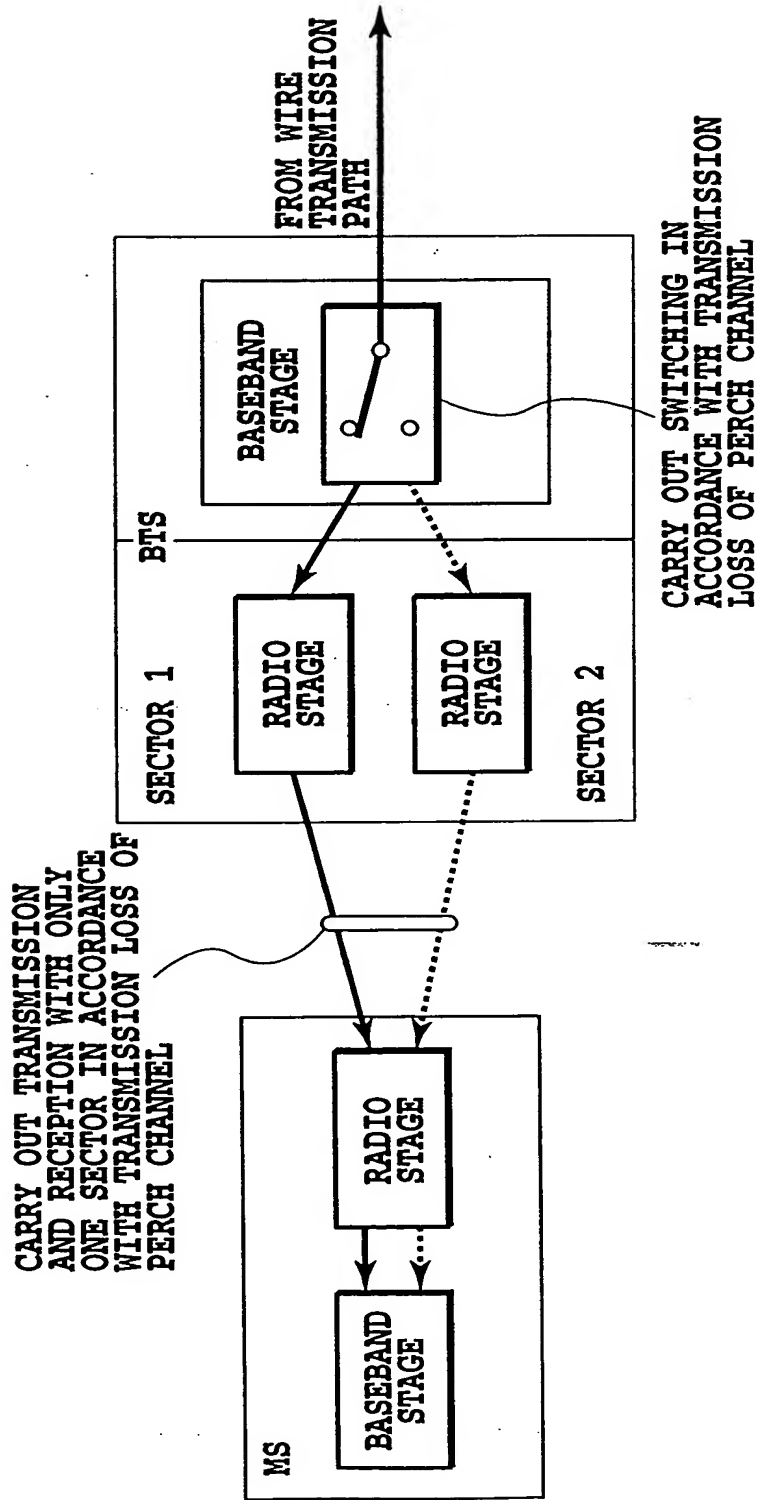
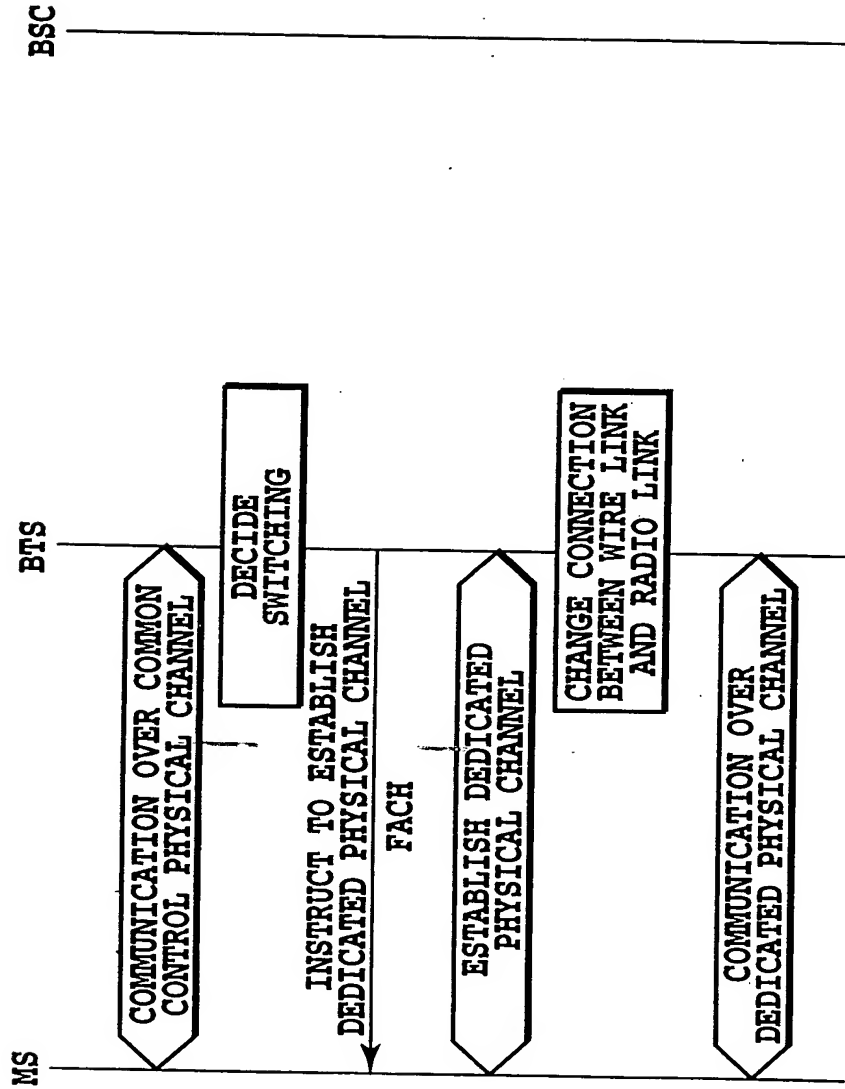


FIG.50



FORWARD COMMON CONTROL PHYSICAL CHANNEL (FACH)

FIG.51



FROM COMMON CONTROL PHYSICAL CHANNEL
TO DEDICATED PHYSICAL CHANNEL

FIG.52

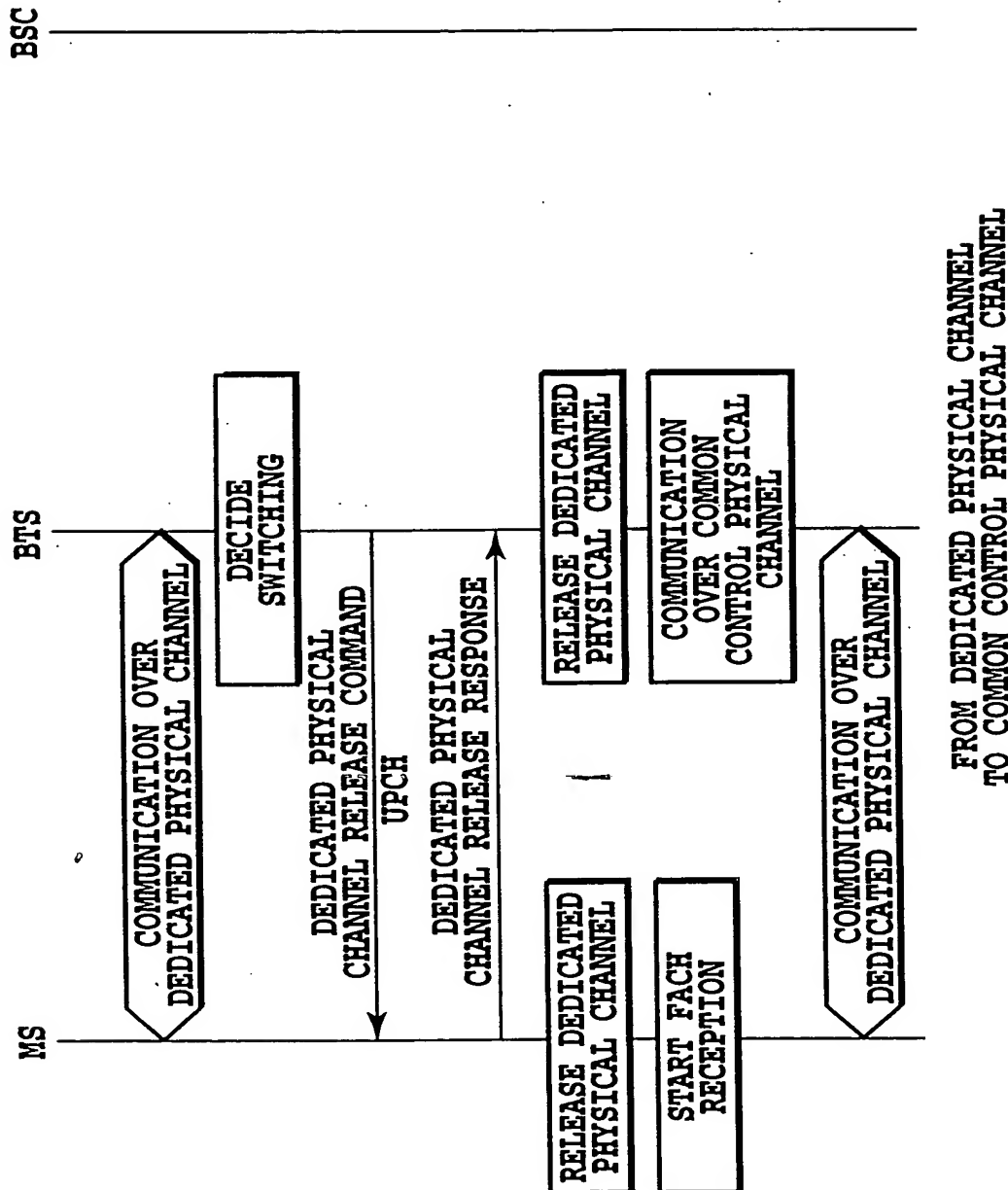


FIG.53

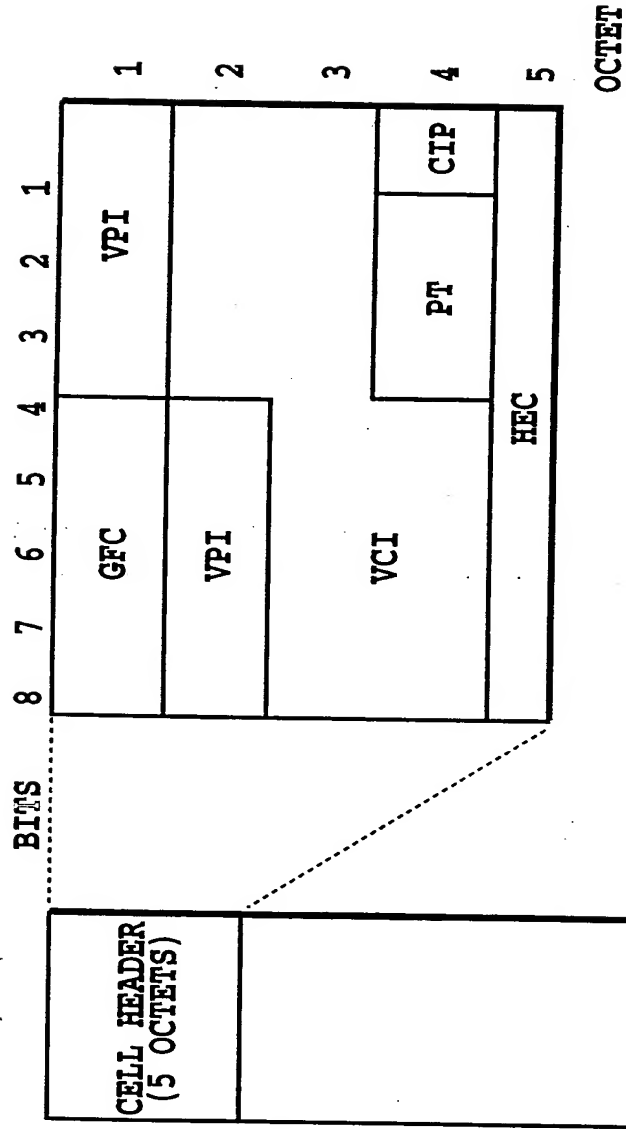


FIG.54

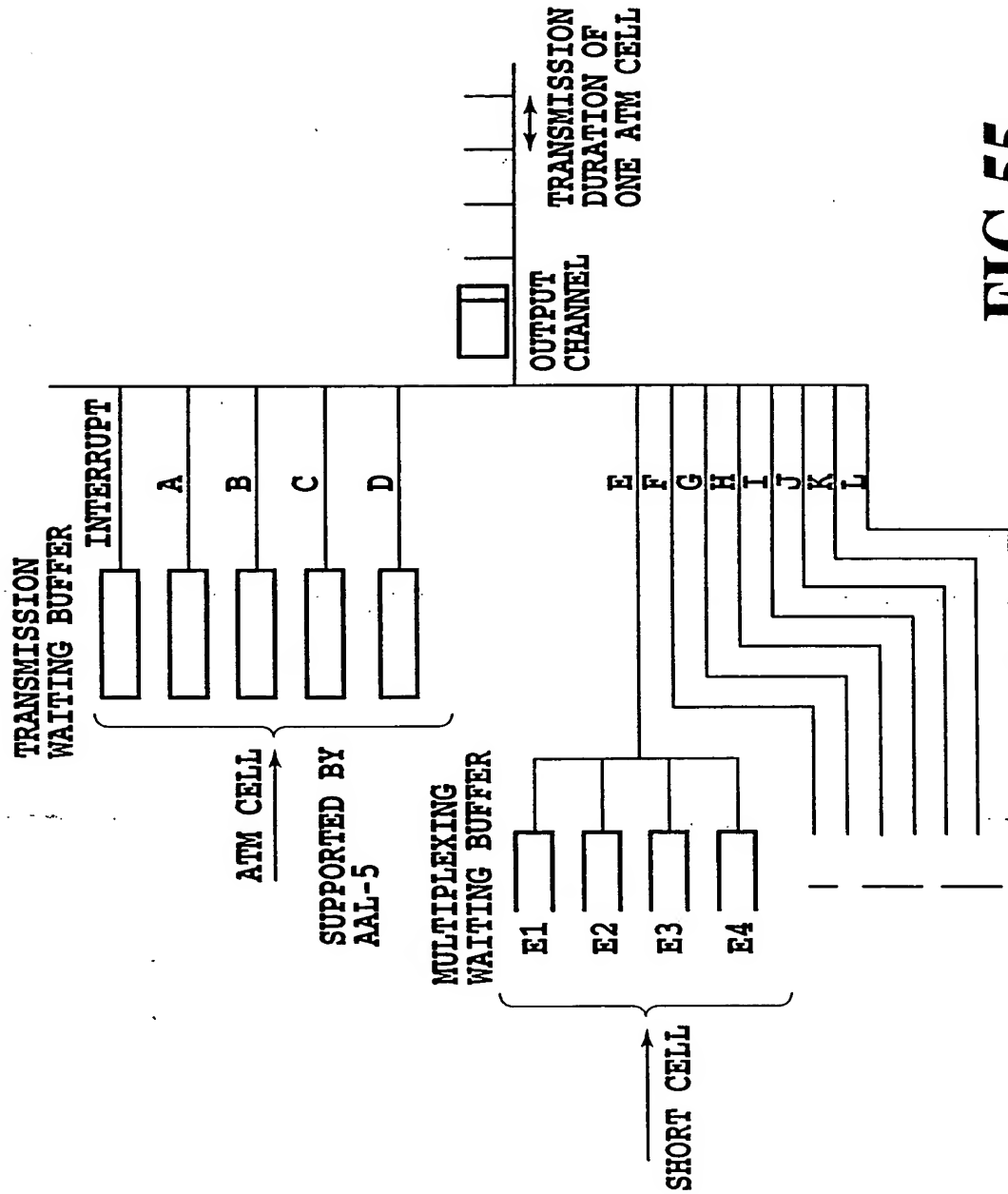


FIG.55

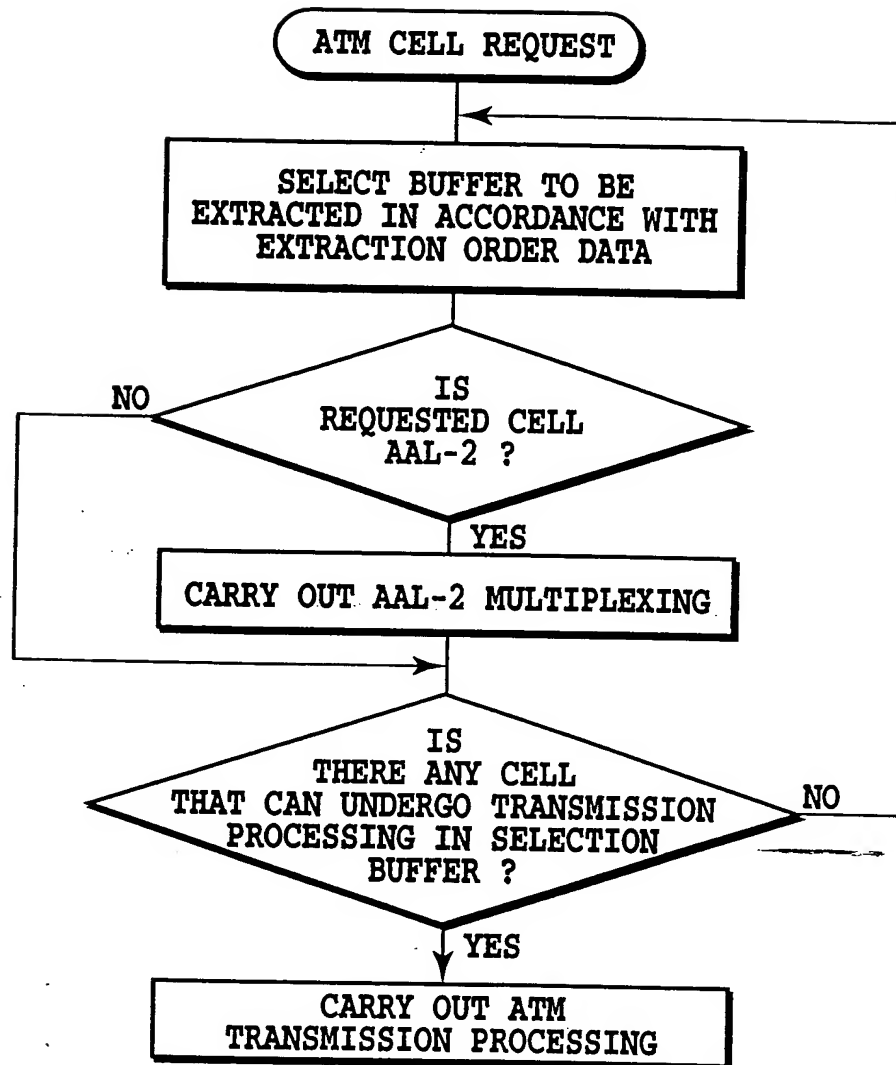


FIG.56

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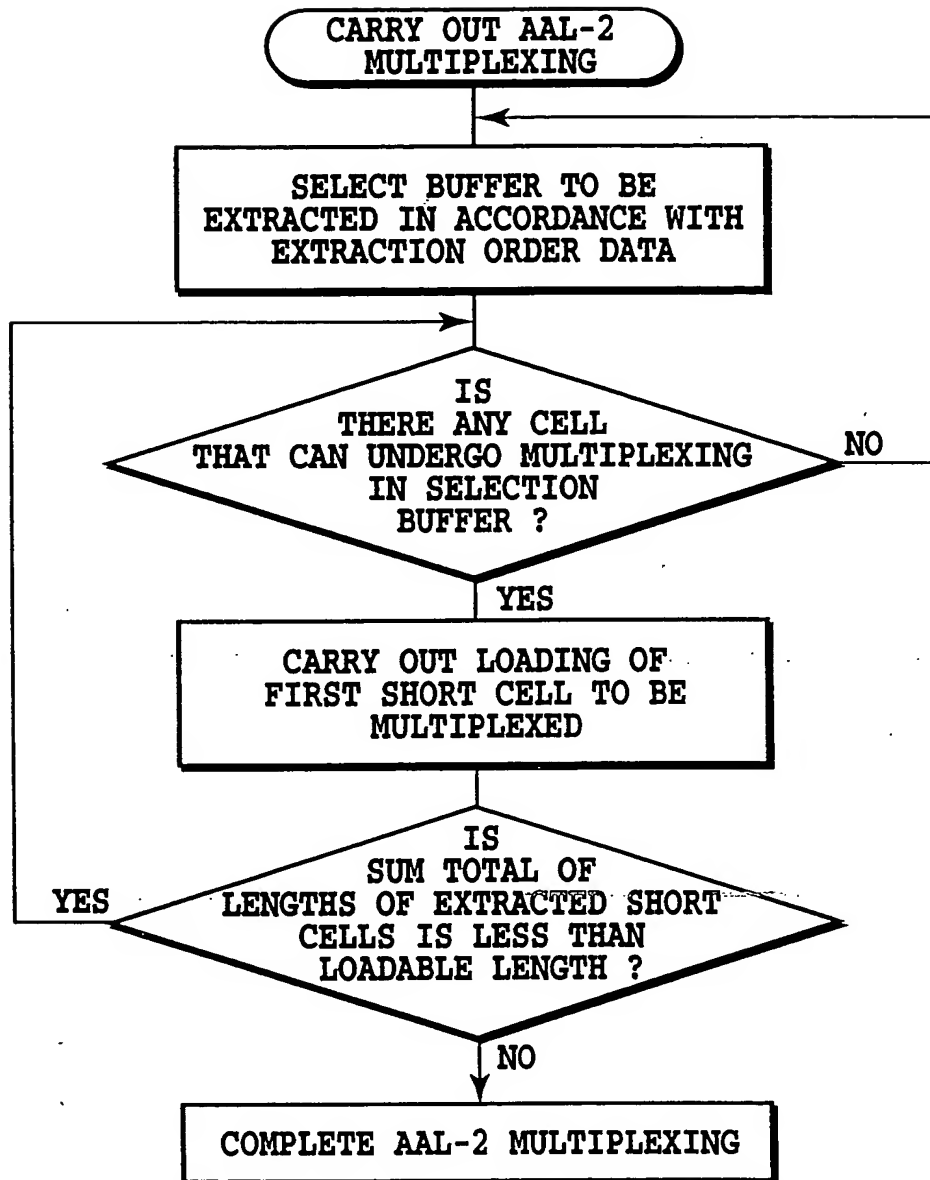


FIG.57

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ATM CELL TRANSMISSION SEQUENCE TABLE

TRANSMISSION ORDER (ABOUT 256 AT MAXIMUM)

PRIORITY ↓	E	F	A	E	F	B	E	F	C	E	. . .
	F	A	B	F	A	C	F	A	D	F	. . .
	A	B	C	A	B	D	A	B	E	A	. . .
	B	C	D	B	C	E	B	C	F	B	. . .
	C	D	E	C	D	F	C	D	A	C	. . .
	D	E	F	D	E	A	D	E	B	D	. . .

FIG.58A

SHORT CELL TRANSMISSION SEQUENCE TABLE
(QUALITY CLASS (6))

TRANSMISSION ORDER (ABOUT 128 AT MAXIMUM)

PRIORITY ↓	E1	E1	E1	E2	E1	E1	E1	E3	. . .
	E2	E2	E2	E3	E2	E2	E2	E4	. . .
	E3	E3	E3	E4	E3	E3	E3	E1	. . .
	E4	E4	E4	E1	E4	E4	E4	E2	. . .

FIG.58B

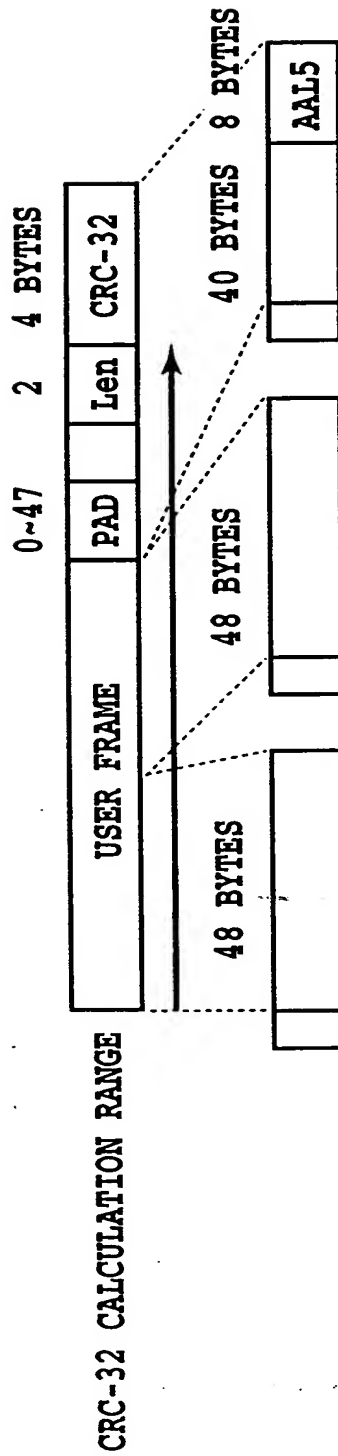
SHORT CELL TRANSMISSION SEQUENCE TABLE
(QUALITY CLASS (7))

TRANSMISSION ORDER (ABOUT 128 AT MAXIMUM)

PRIORITY ↓	F1	F1	F2	F1	F1	F3	F1	F1	. . .
	F2	F2	F3	F2	F2	F4	F2	F2	. . .
	F3	F3	F4	F3	F3	F1	F3	F3	. . .
	F4	F4	F1	F4	F4	F2	F4	F4	. . .

FIG.58C

- CARRY OUT CELL EXTRACTION PROCESSING IN ACCORDANCE WITH TRANSMISSION SEQUENCE DETERMINED FOR EACH OUTPUT TIMING.
- IF NO CELL IS PRESENT IN HIGHER PRIORITY QUALITY CLASS, A CELL IN THE NEXT PRIORITY IS EXTRACTED.



PAD : PADDING BITS (ALL "0s")

Len : NUMBER OF BYTES OF EFFECTIVE DATA LENGTH OF USER FRAME

CRC-32 : CRC CHECKING BITS OVER 32 BITS

CRC-32 : GENERATOR POLYNOMIAL

$$G(X) = X^{32} + X^{26} + X^{23} + X^{22} + X^{16} + X^{12} + X^{11} + X^{10} + X^8 + X^7 + X^5 + X^4 + X^2 + X^1 + 1$$

CHECK BITS ARE OBTAINED BY INVERTING BITS OF REMAINDER GENERATED BY THE GENERATOR POLYNOMIAL.

FIG.59

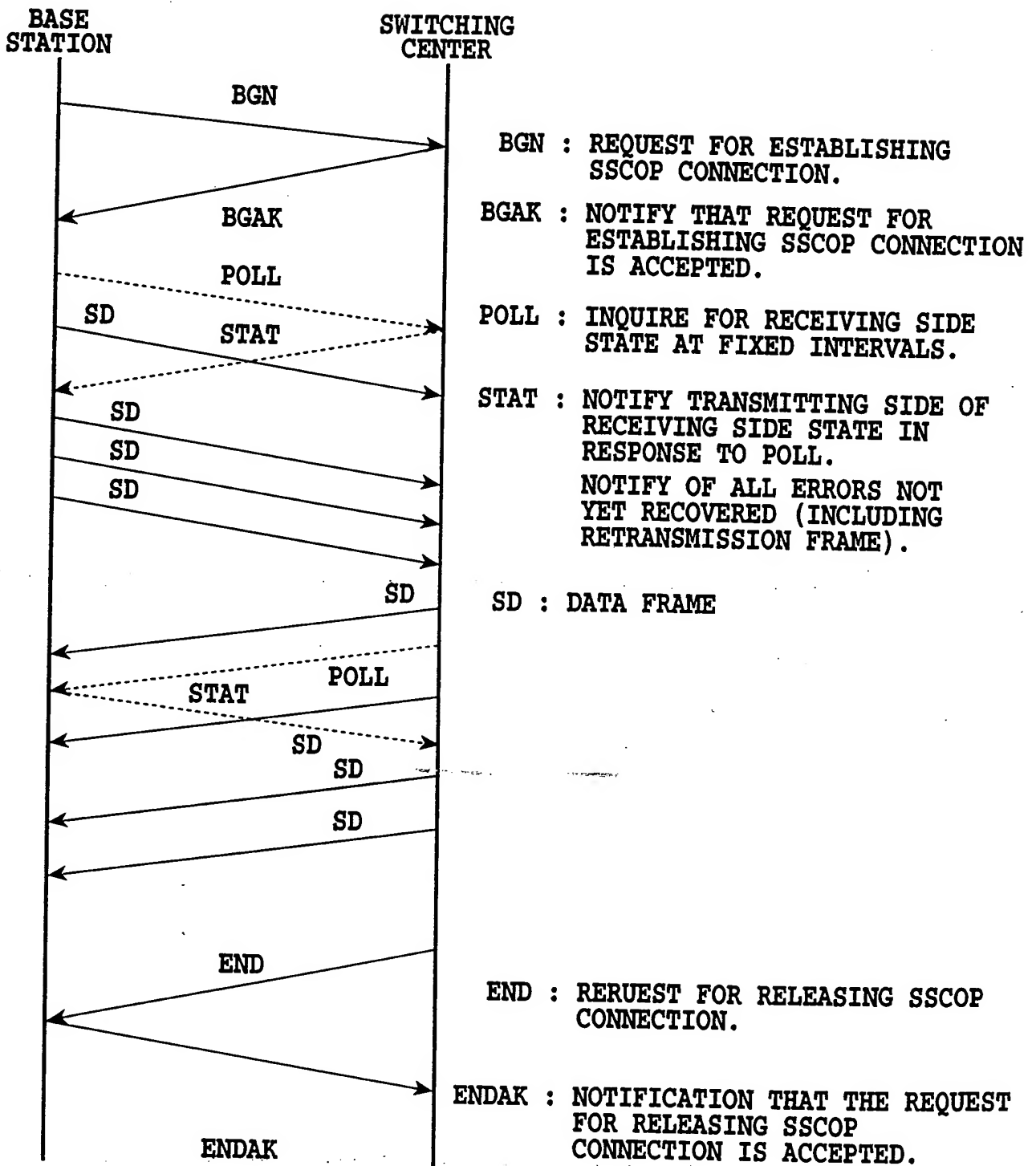


FIG.60

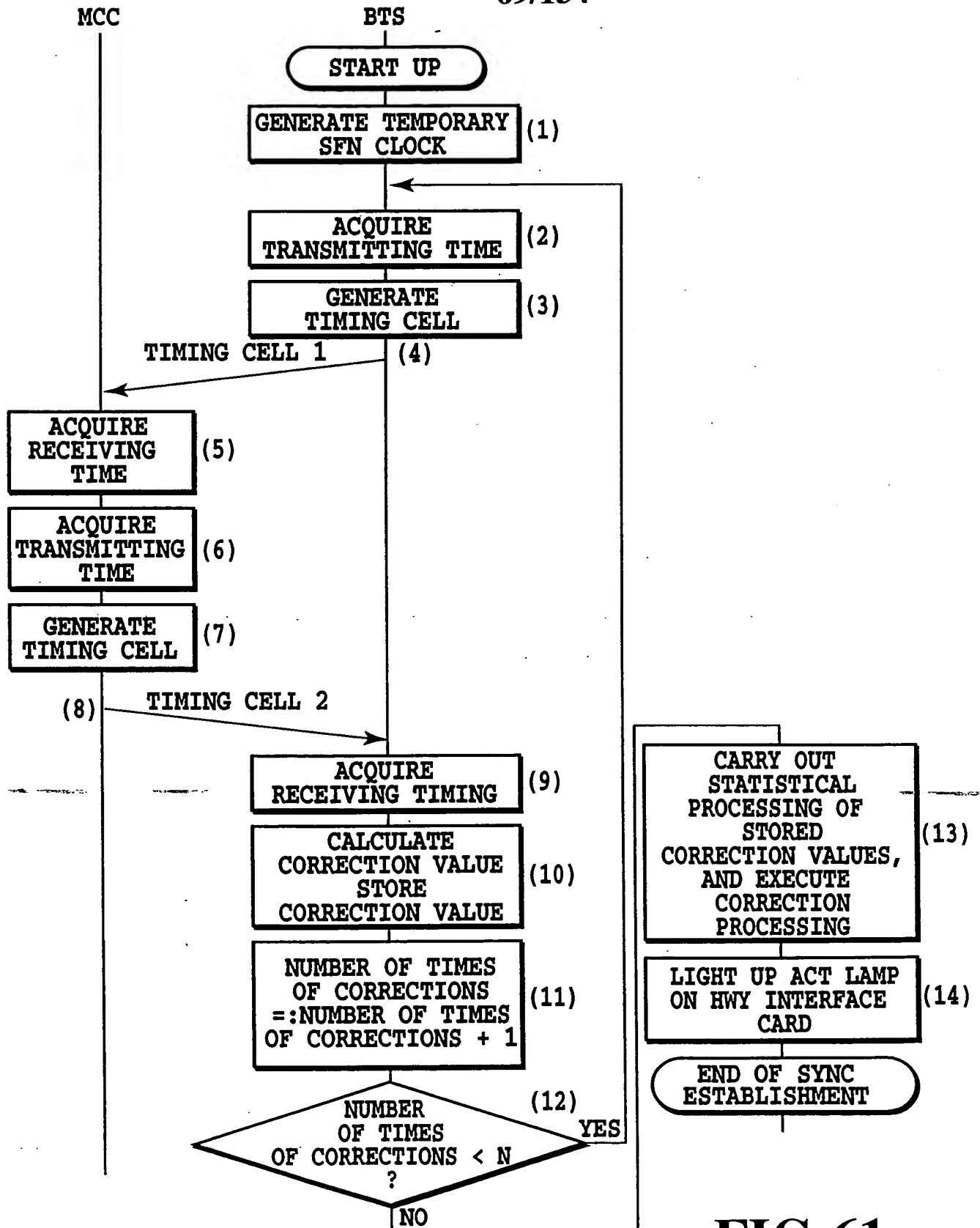


FIG 61

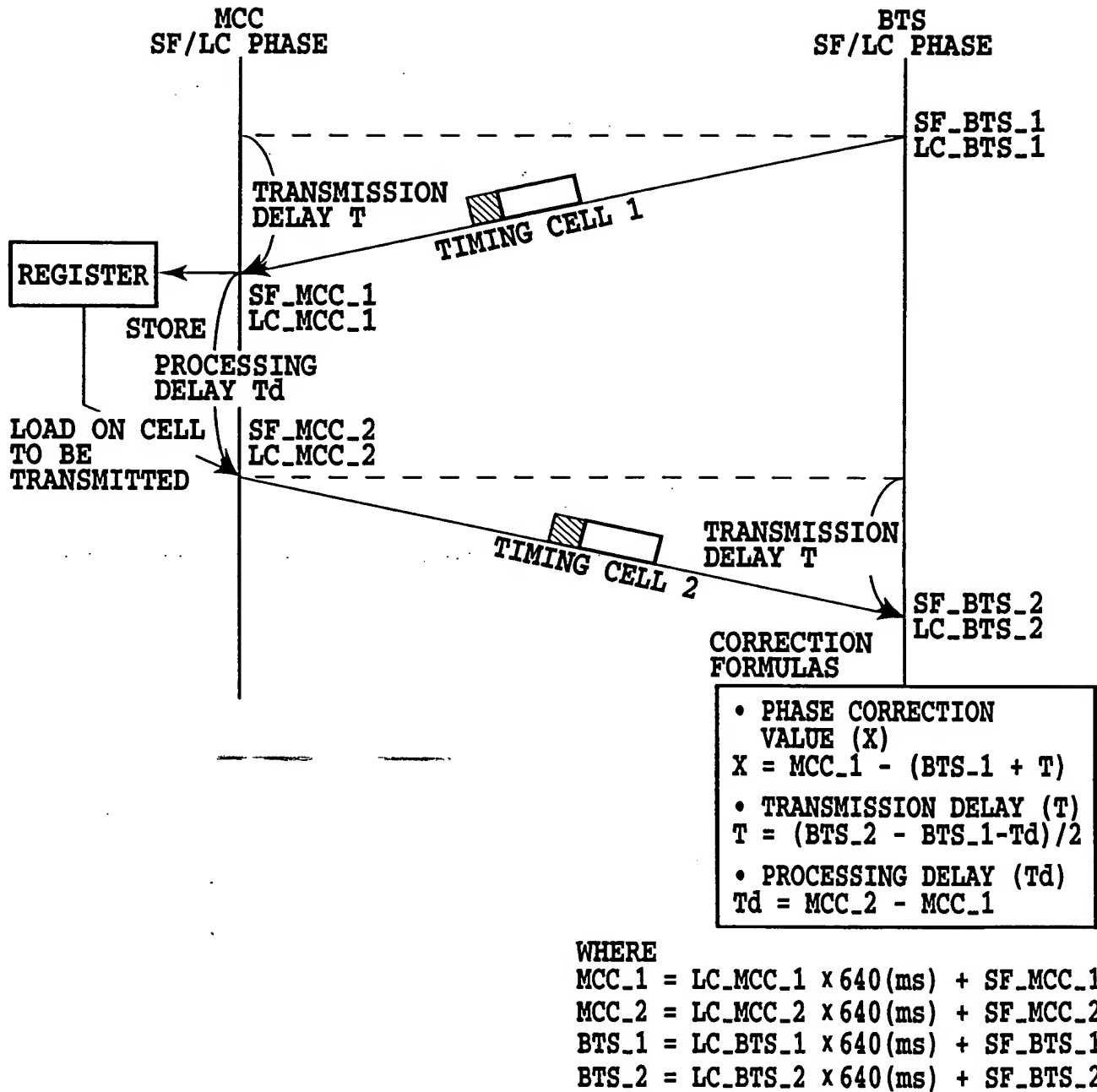


FIG.62

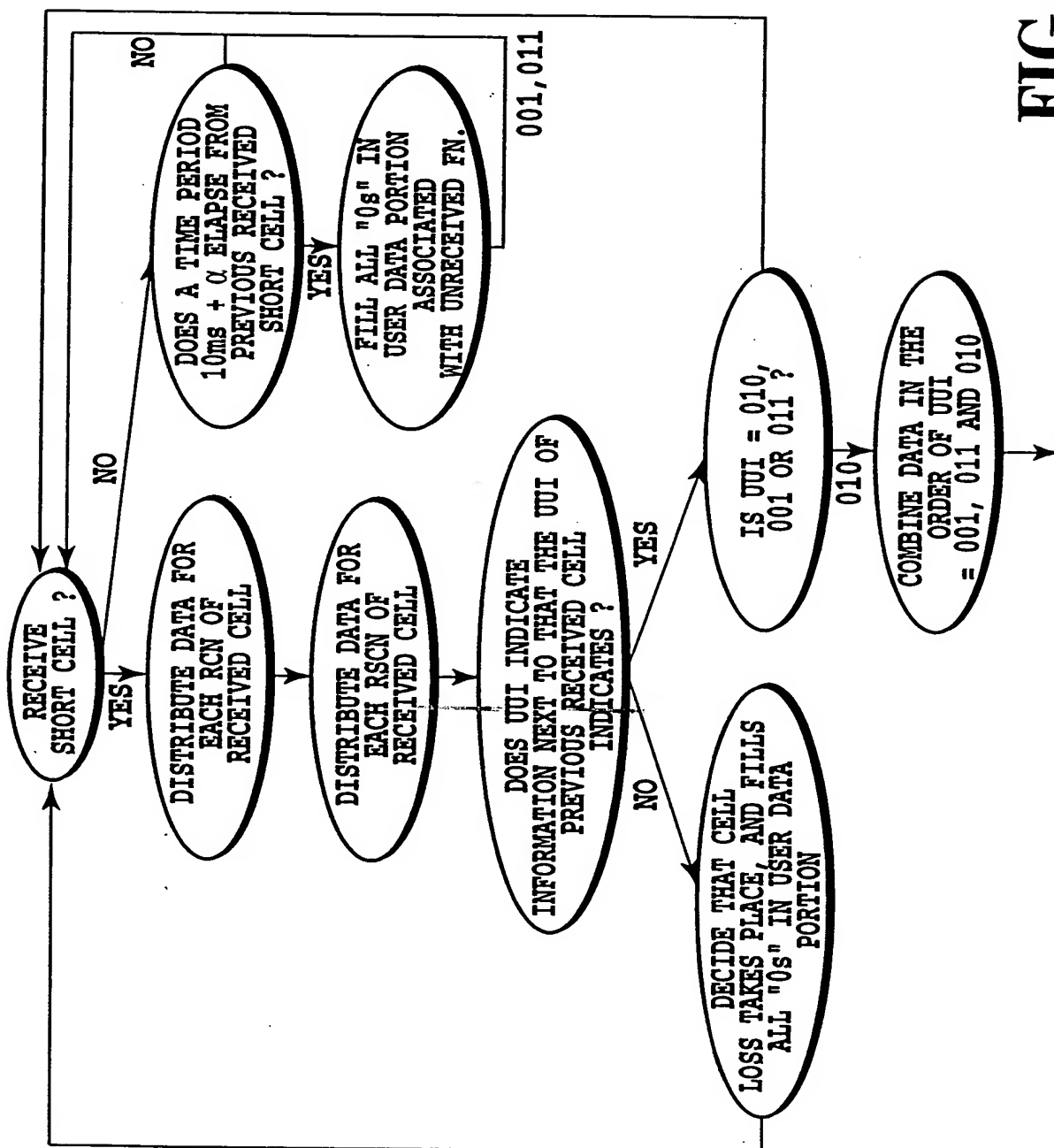


FIG. 63

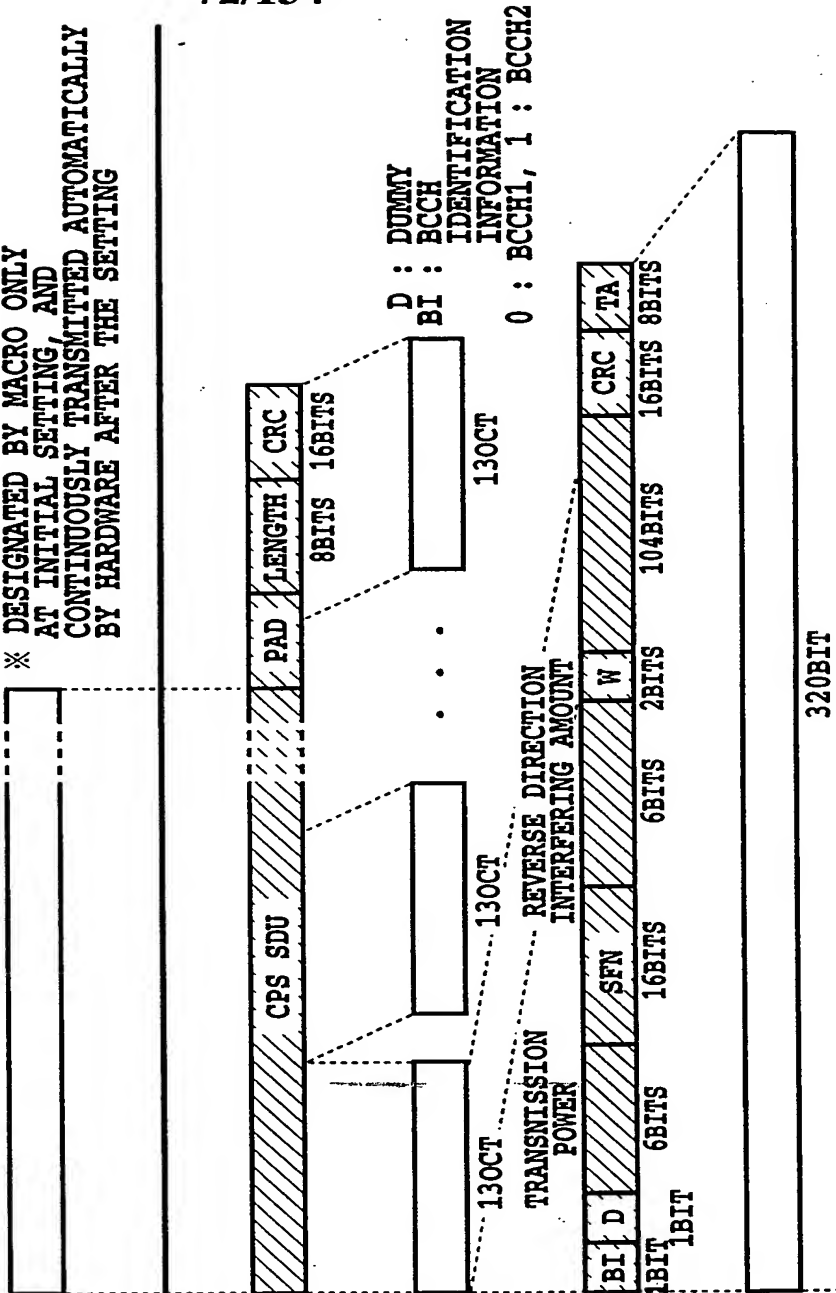
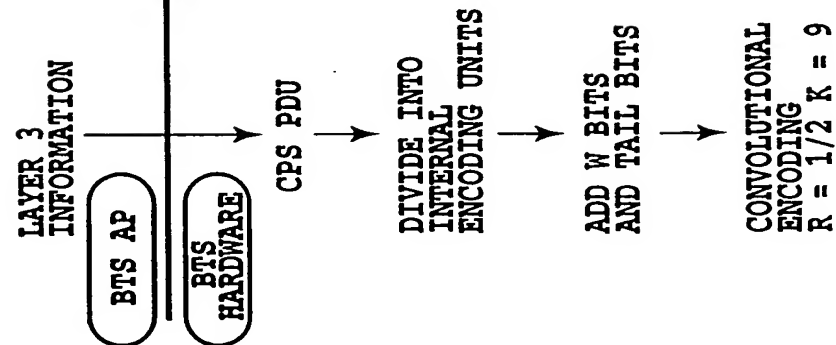
FIG.64

FIG.64A

FIG.64B

FIG.64A

※ DESIGNATED BY MACRO ONLY
AT INITIAL SETTING, AND
CONTINUOUSLY TRANSMITTED AUTOMATICALLY
BY HARDWARE AFTER THE SETTING



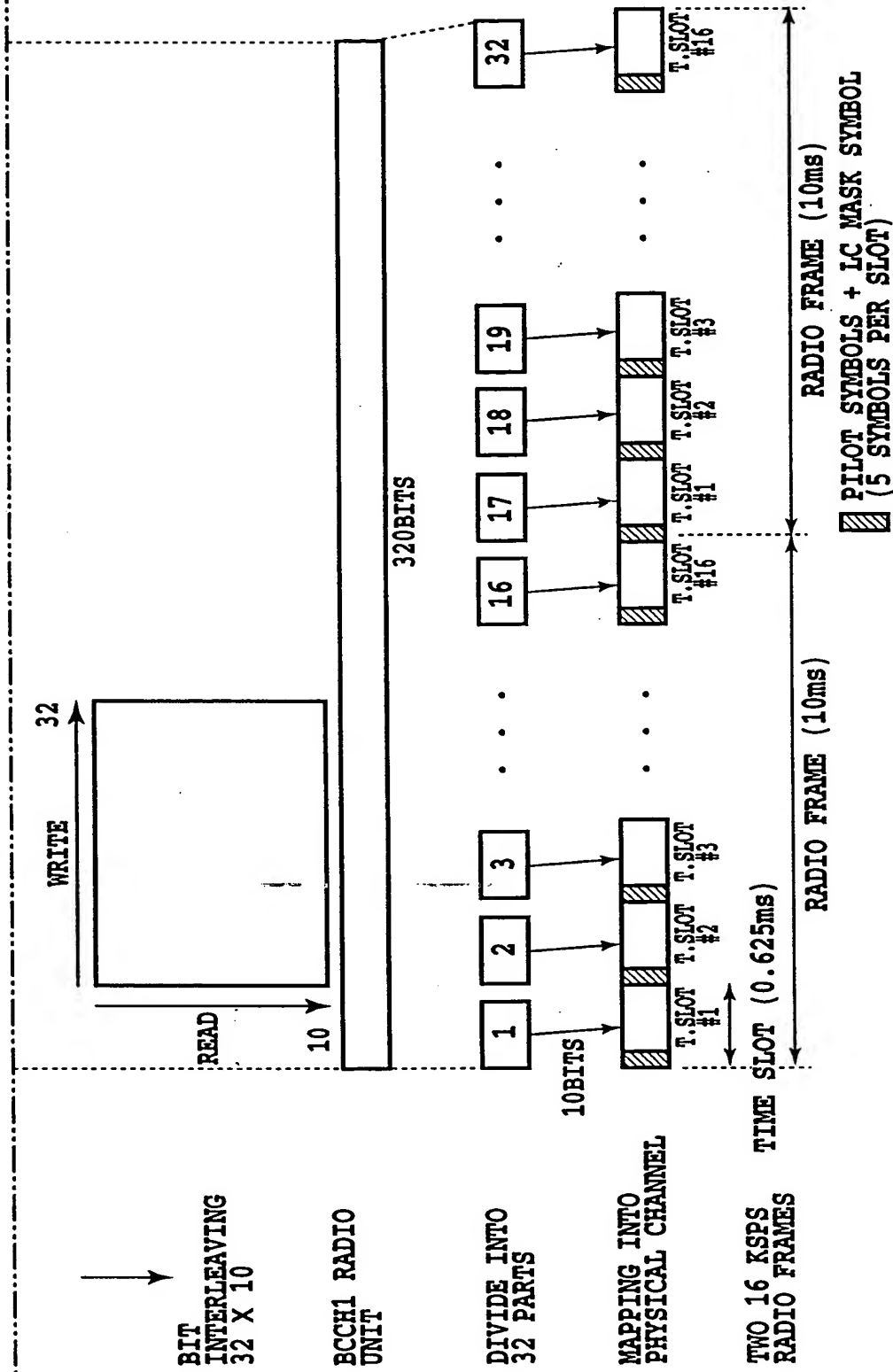


FIG.64B

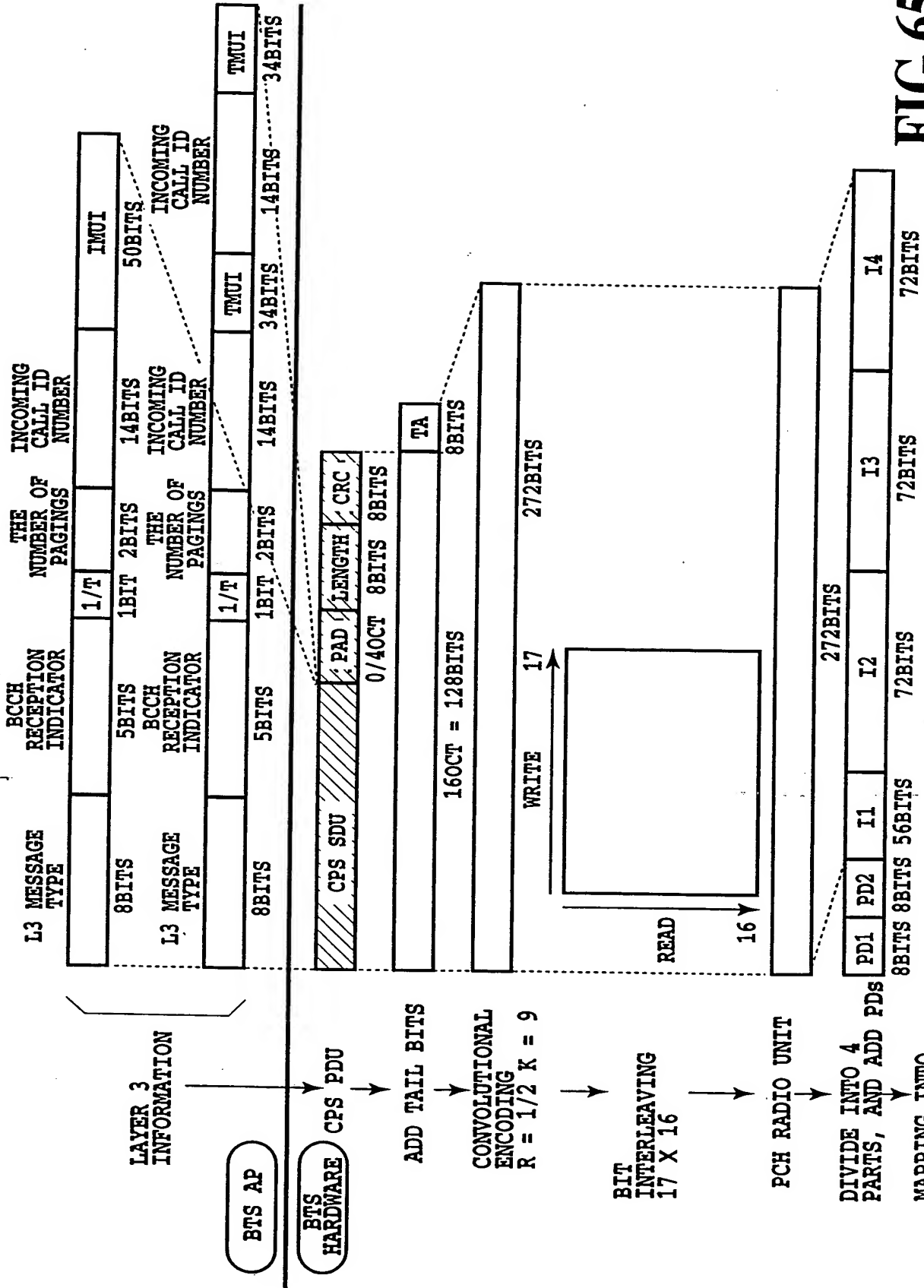


FIG. 65A

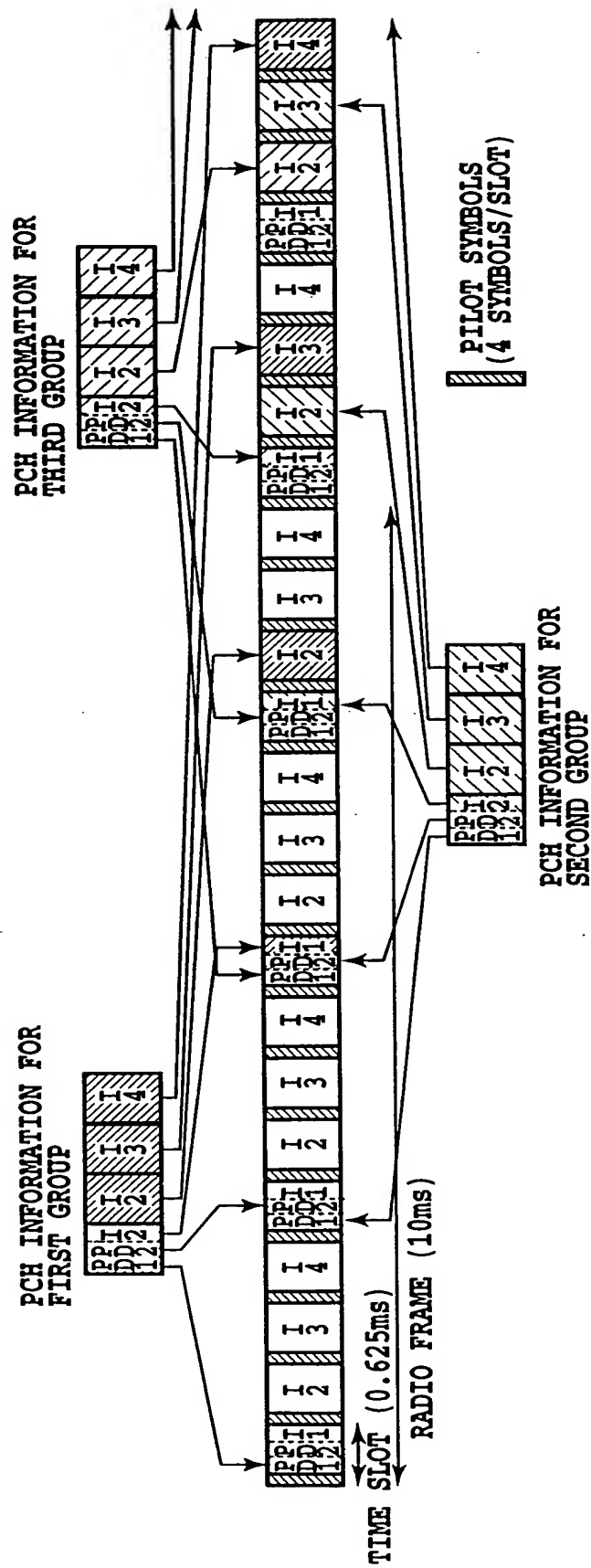


FIG.65B

FIG.66

FIG.66A

FIG.66B

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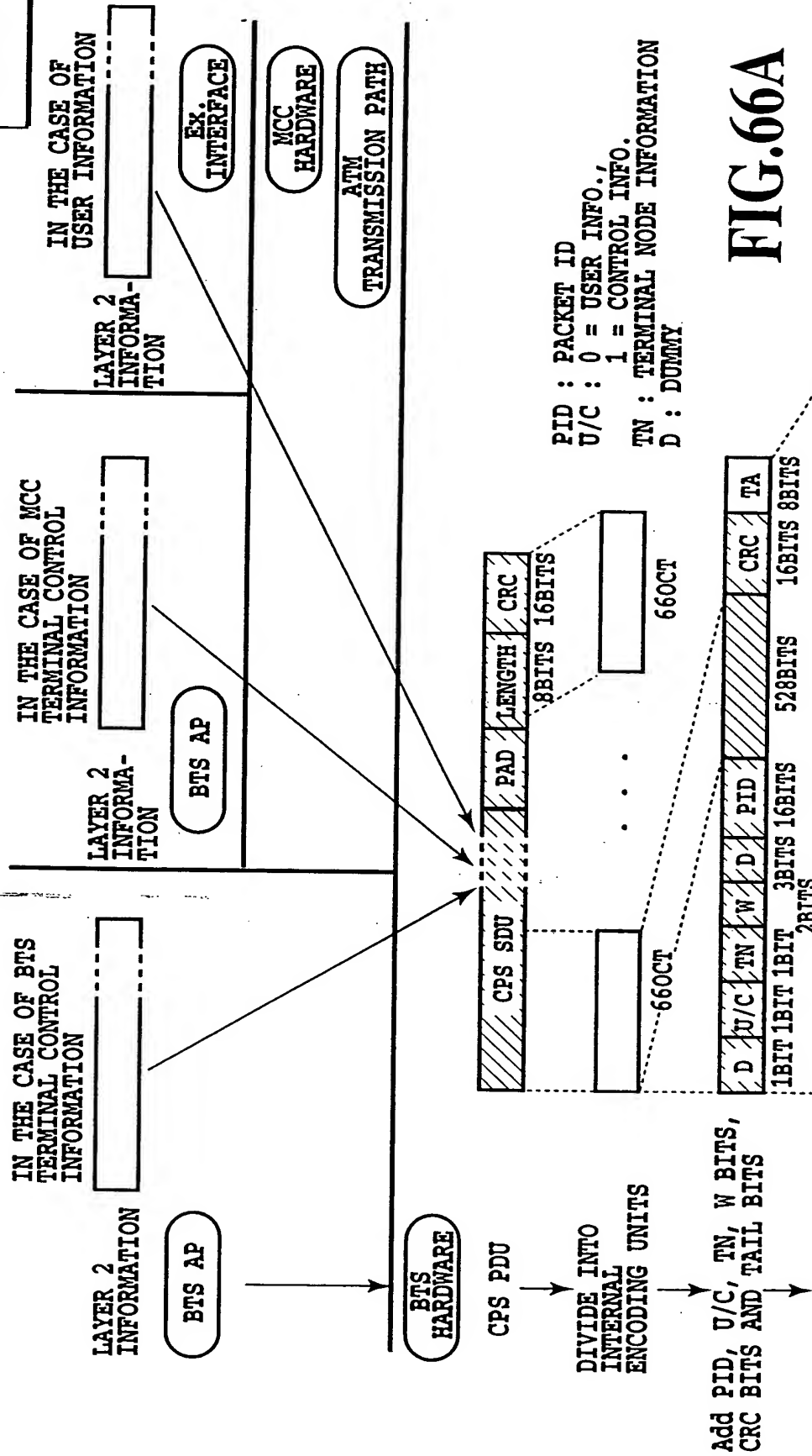


FIG.66A

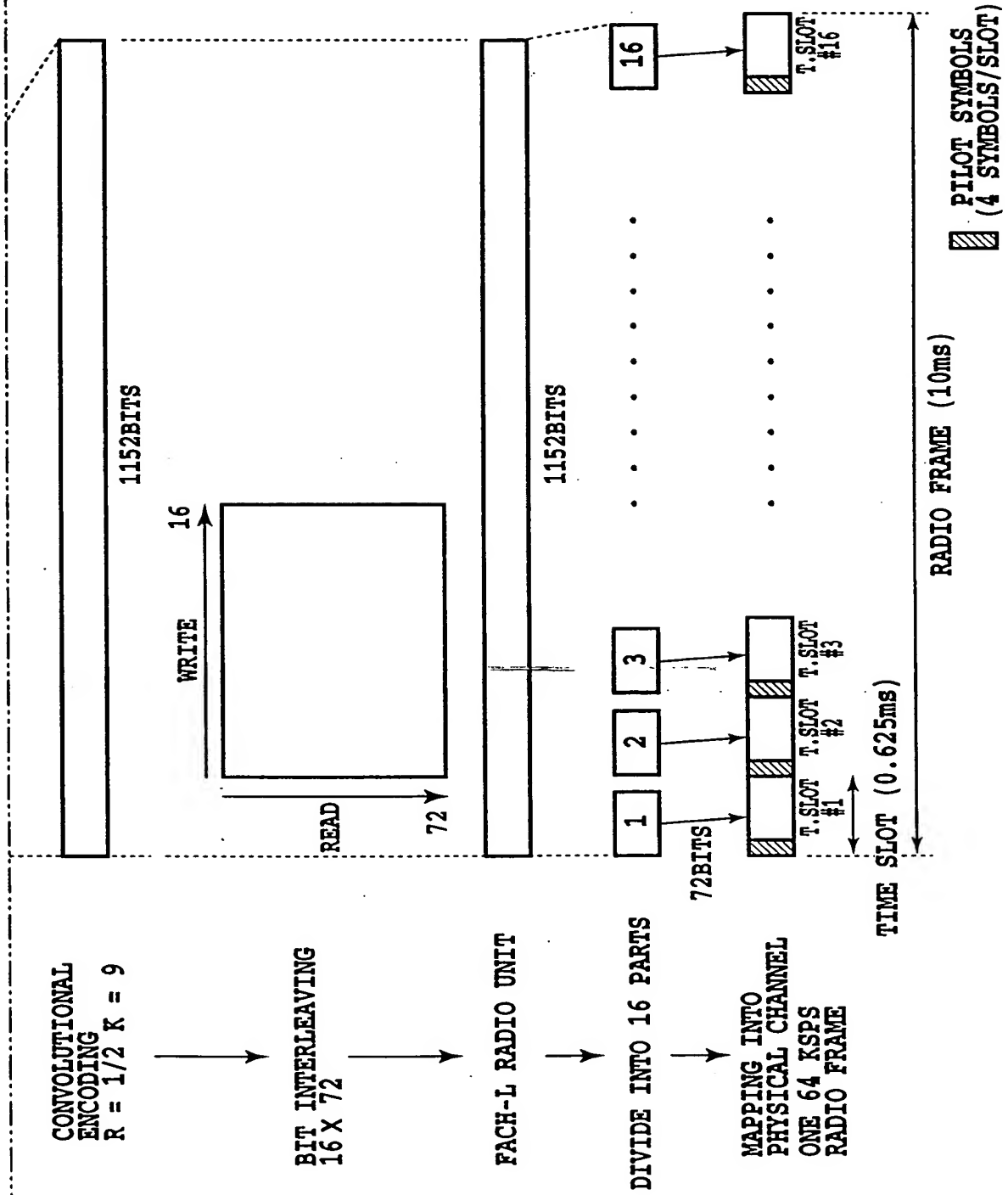


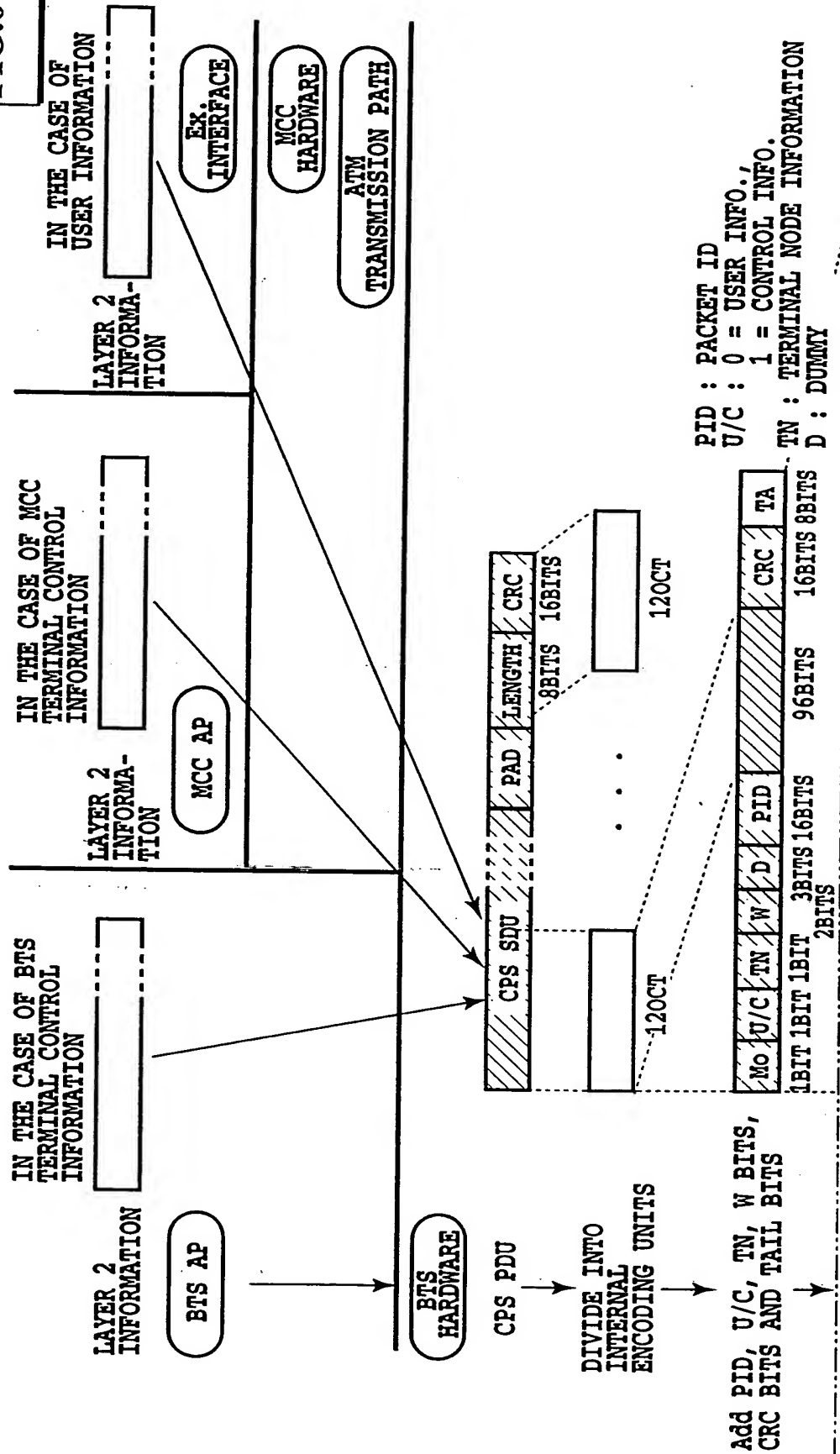
FIG.66B

FIG.67

FIG.67A

FIG.67A

FIG.67B

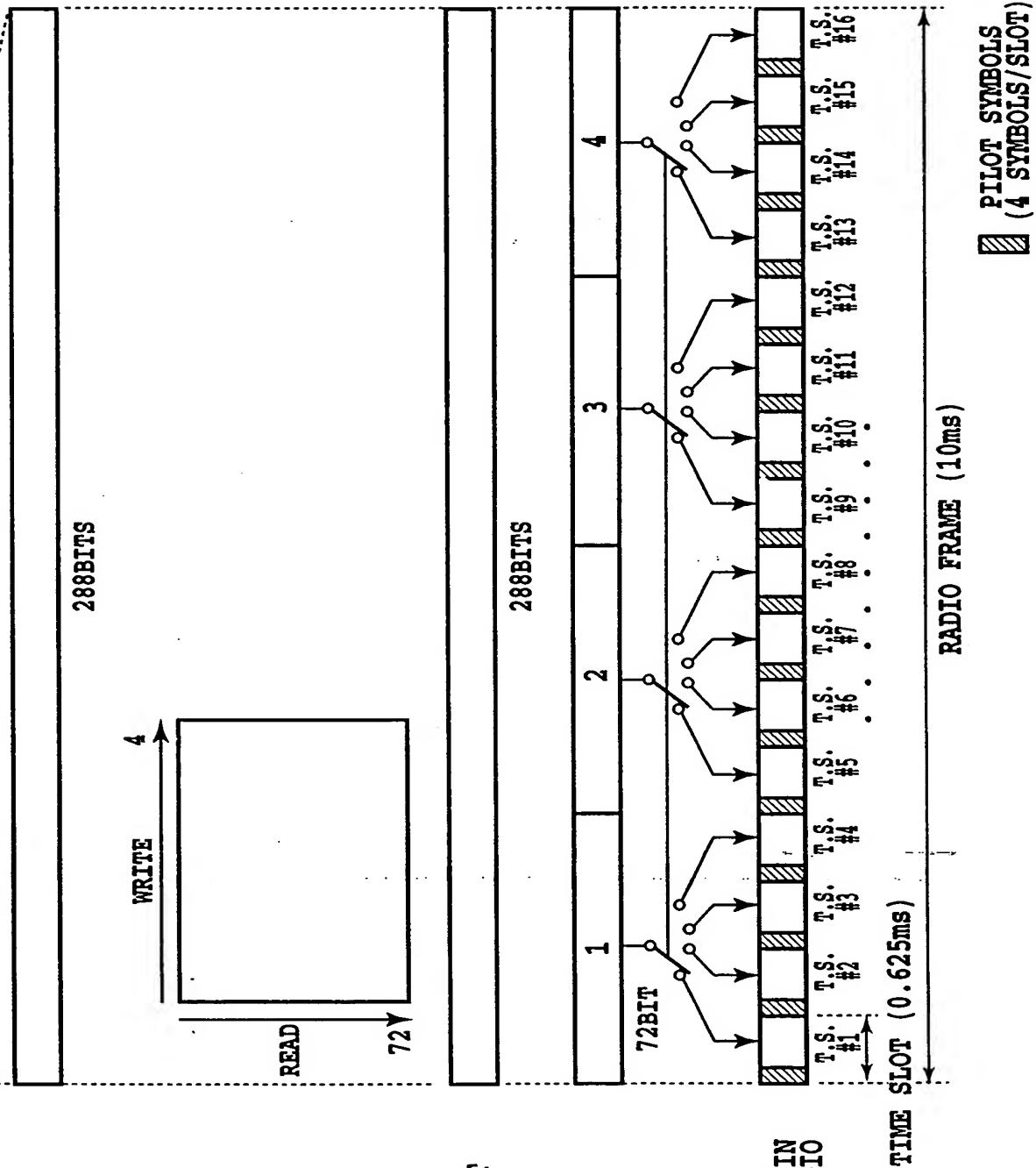


BIT INTERLEAVING 4 X 72

FACH-S RADIO UNIT

DIVIDE INTO 4 PARTS

**MAPPING INTO
PHYSICAL CHANNEL
FOUR TIME SLOTS IN
EACH 64 KSPS RADIO
FRAME**



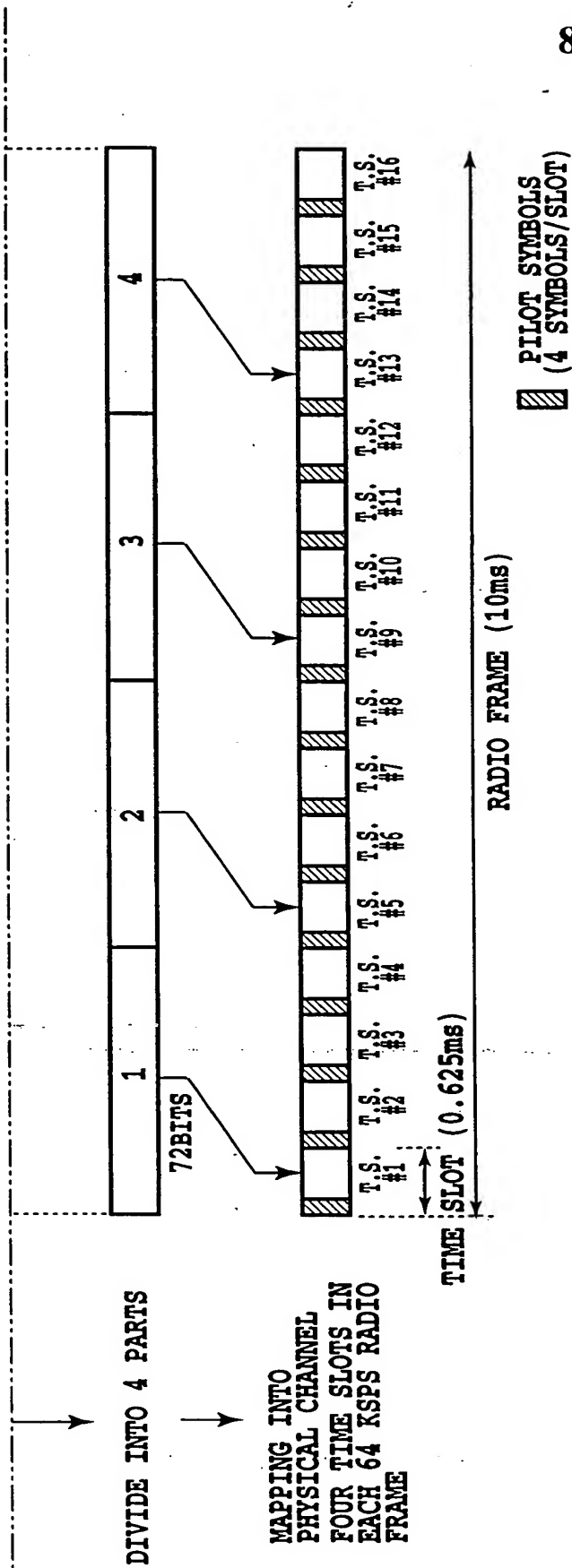


FIG.68B

FIG.69

FIG.69A

FIG.69B

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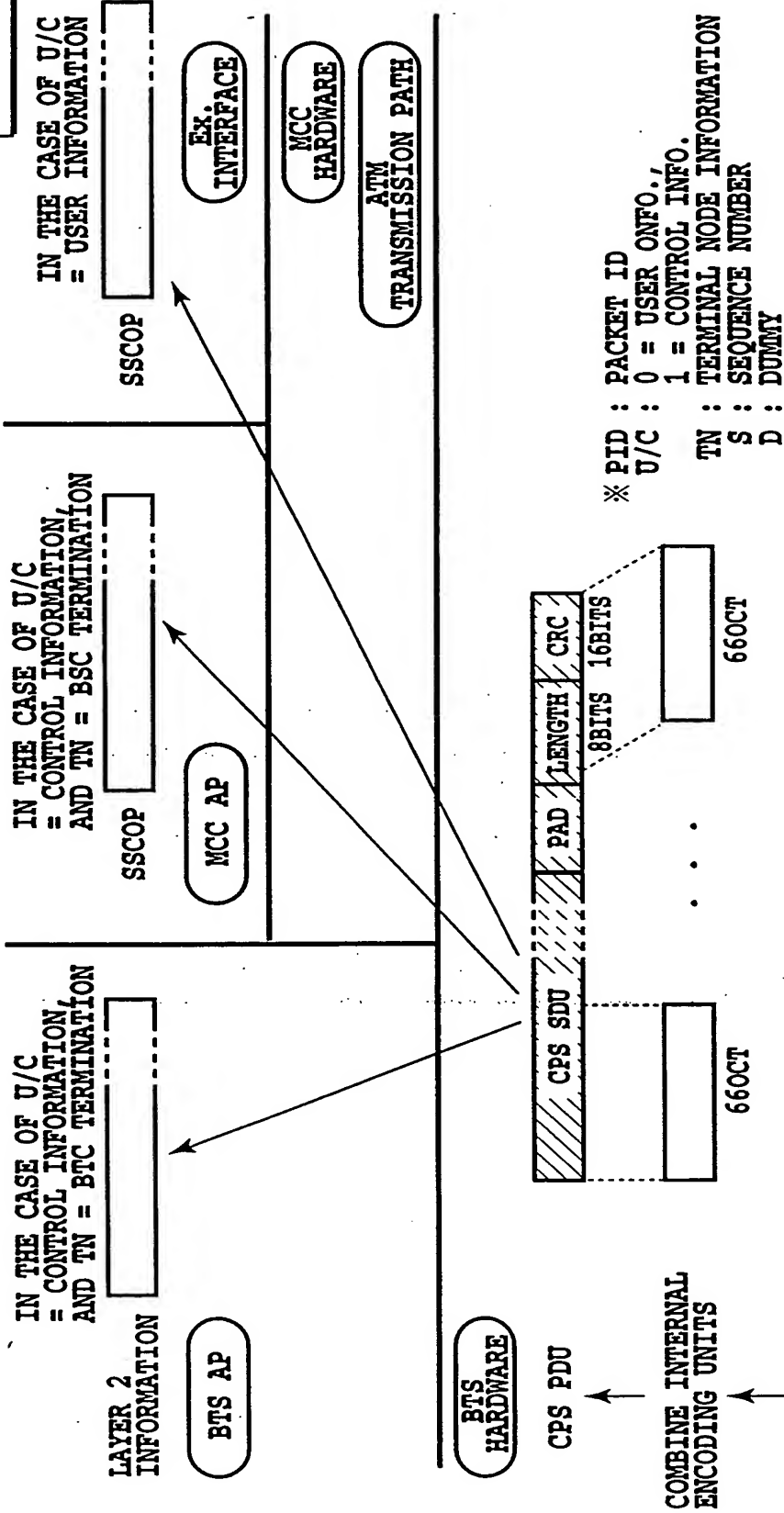


FIG.69A

DETECT PID, U/C, TN AND W BITS, AND DISCARD CRC BITS AND TAIL BITS

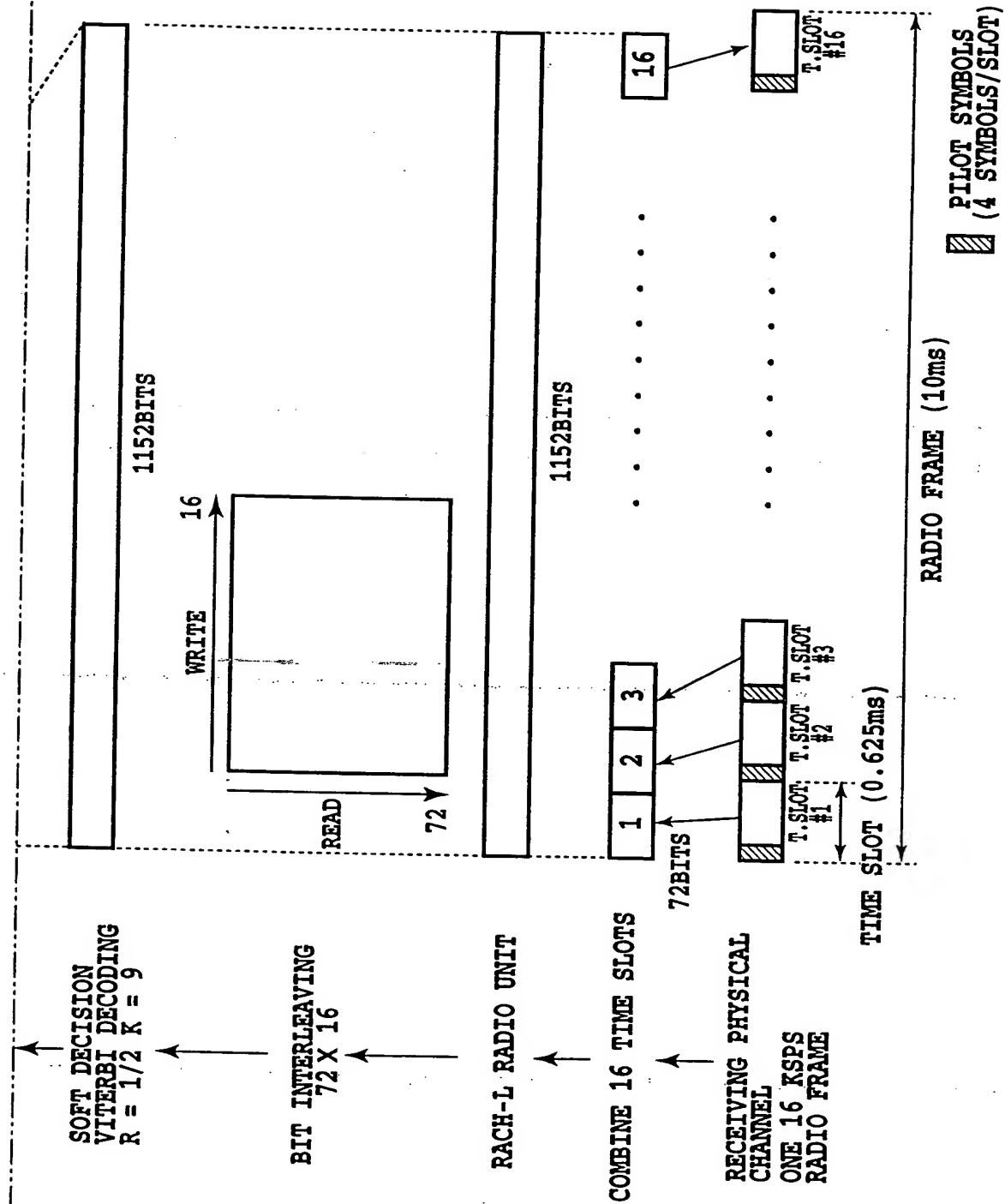


FIG.69B

FIG.70

FIG.70A

FIG.70B

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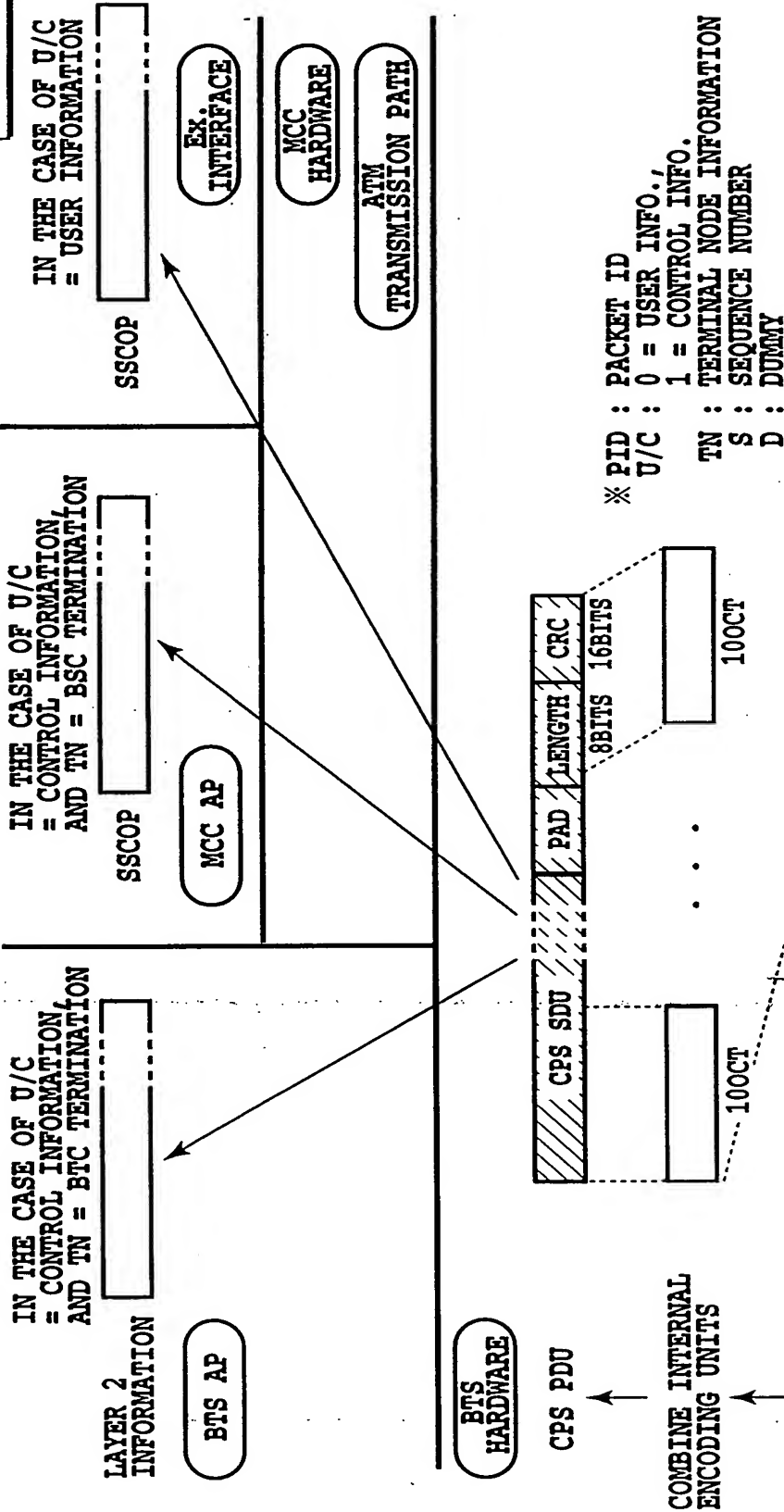


FIG.70A

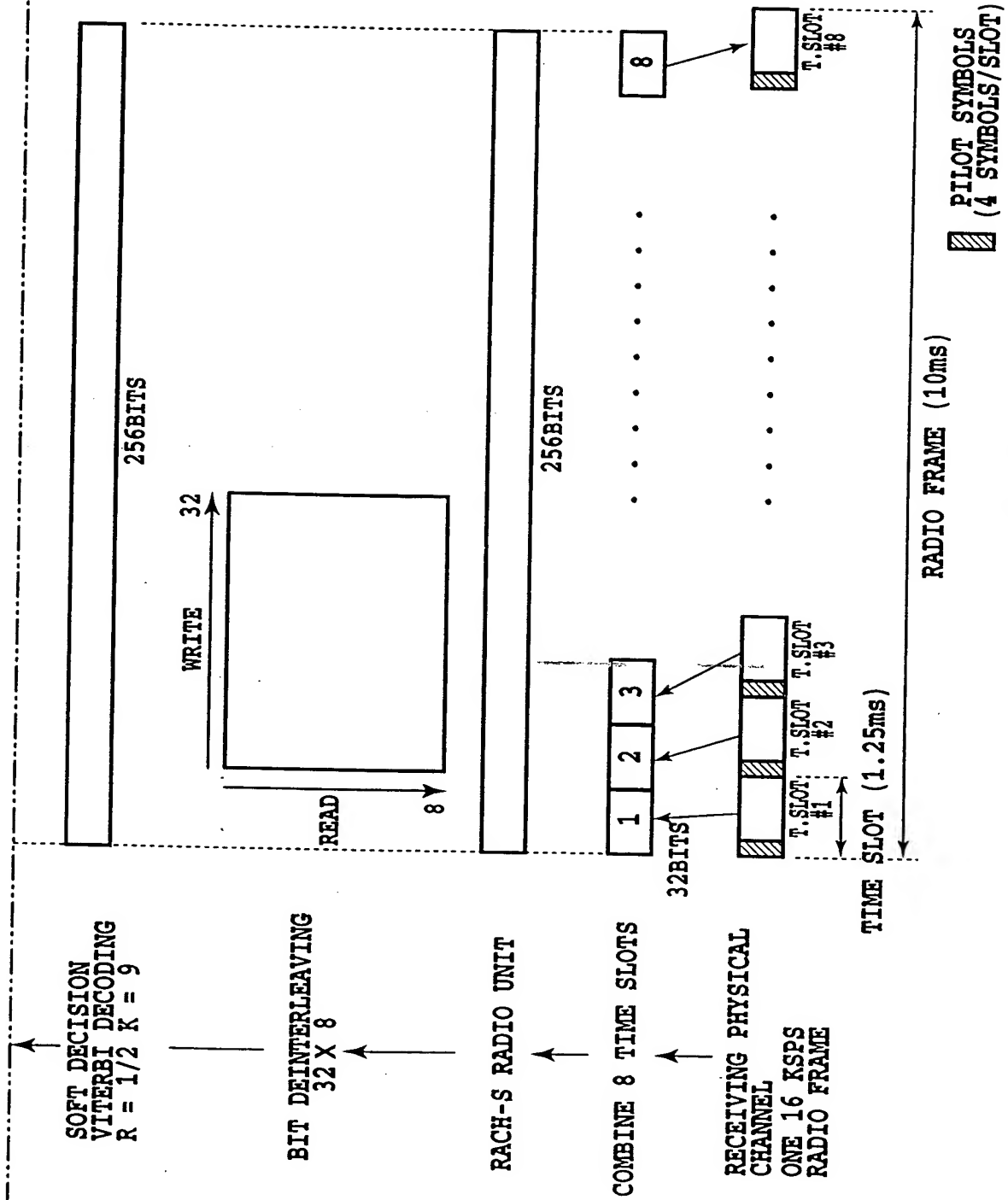


FIG.70B

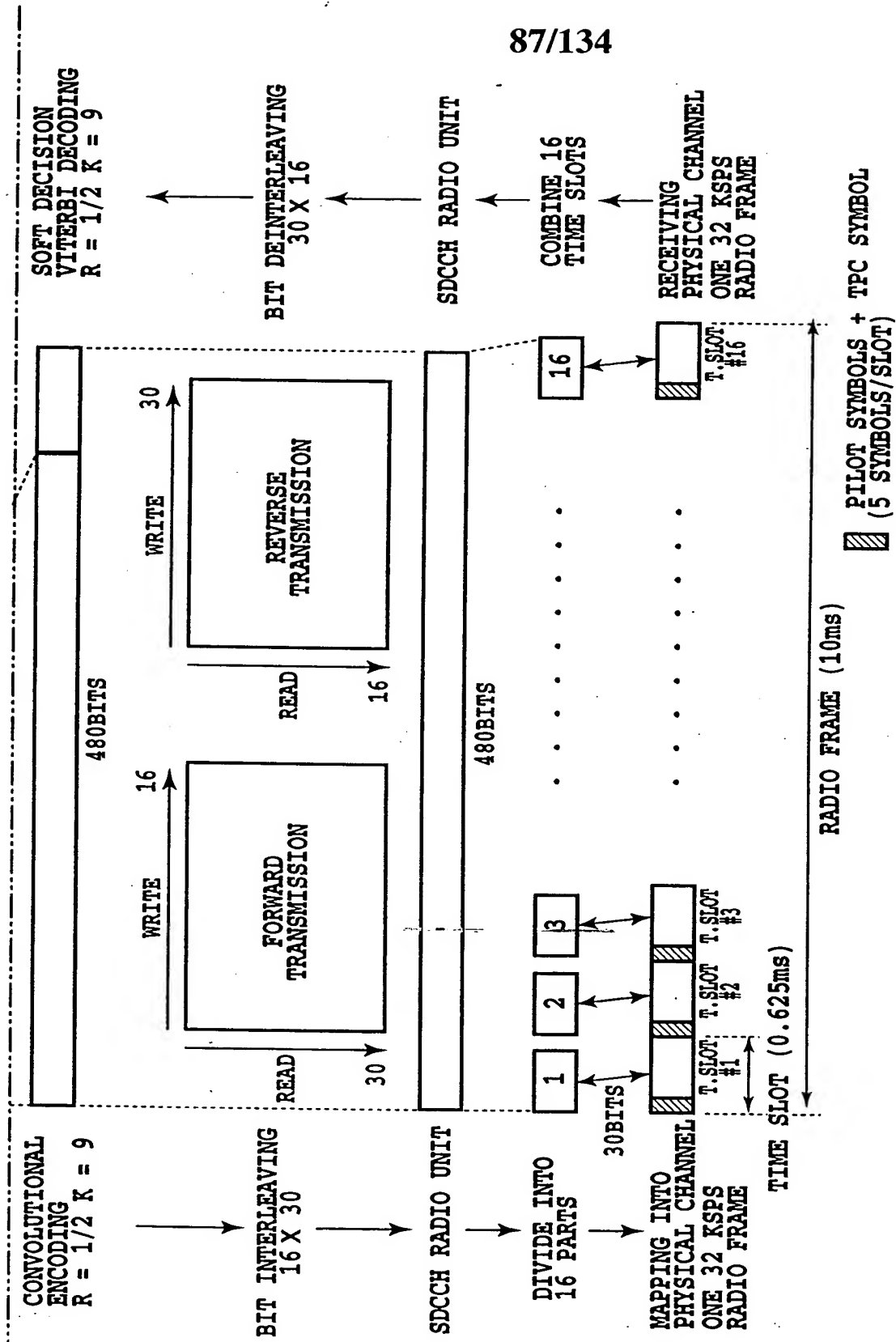


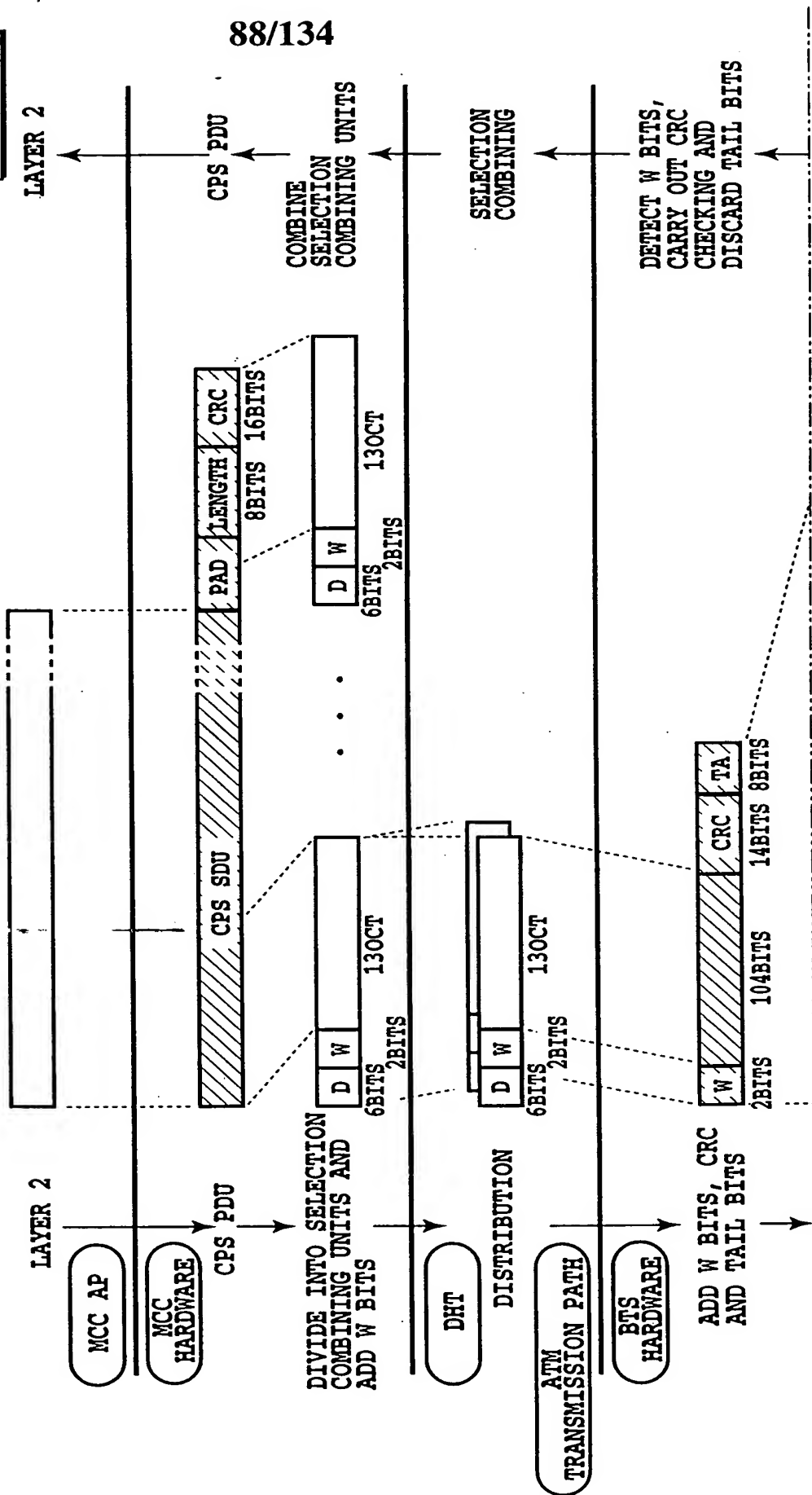
FIG. 71B

FIG.72

FIG.72A

FIG.72B

FIG.72A



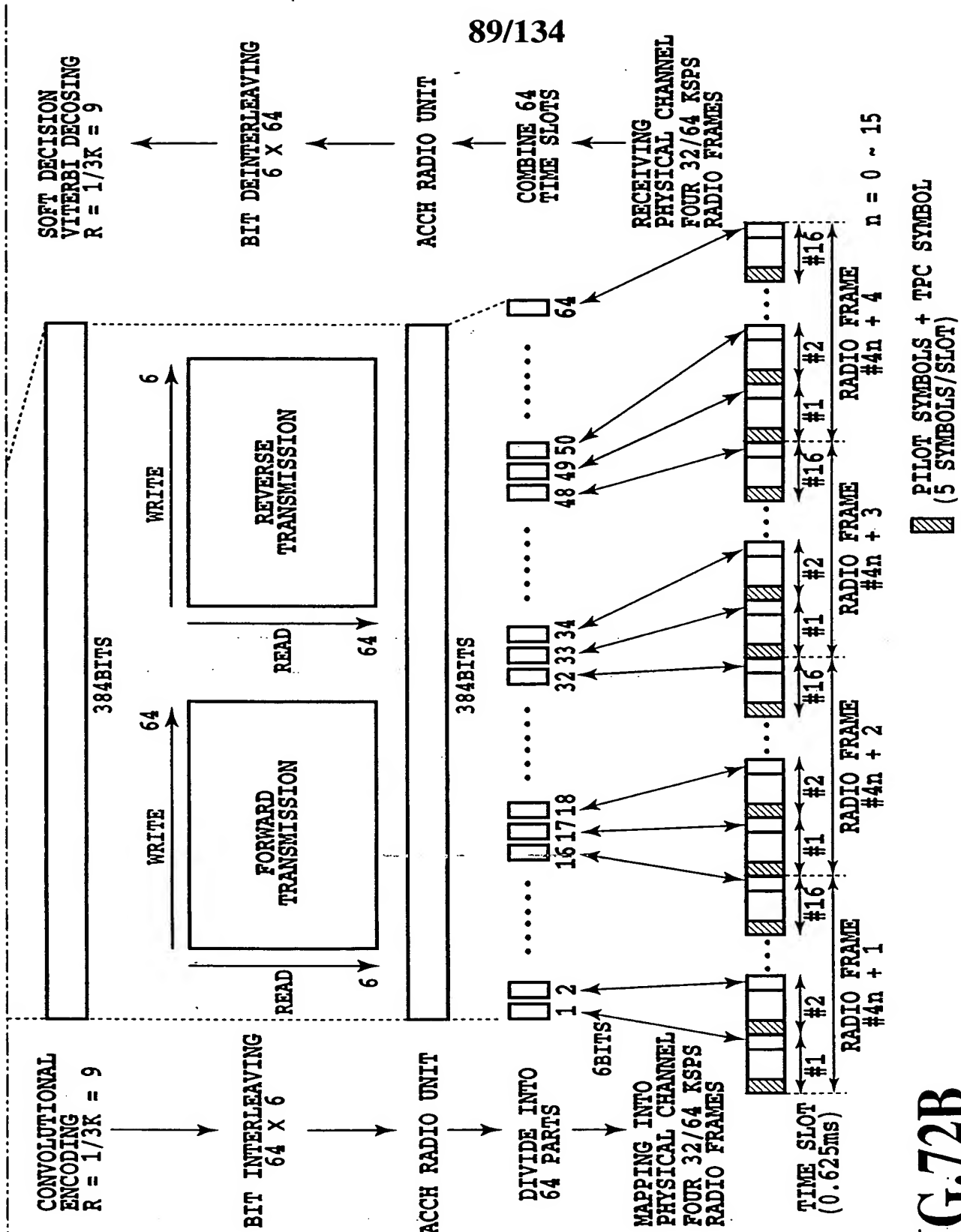


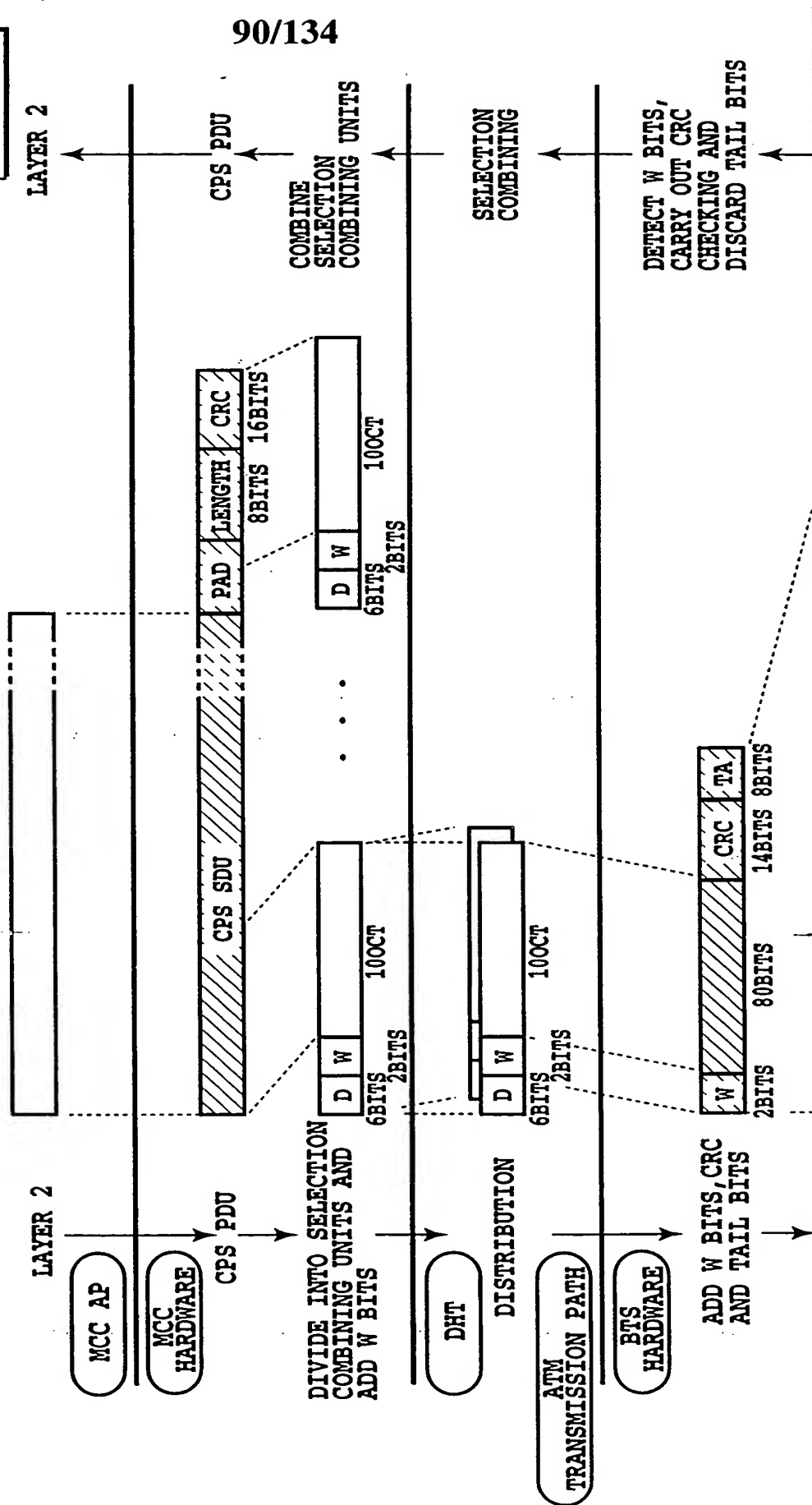
FIG.72B

FIG.73

FIG.73A

FIG.73B

FIG.73A



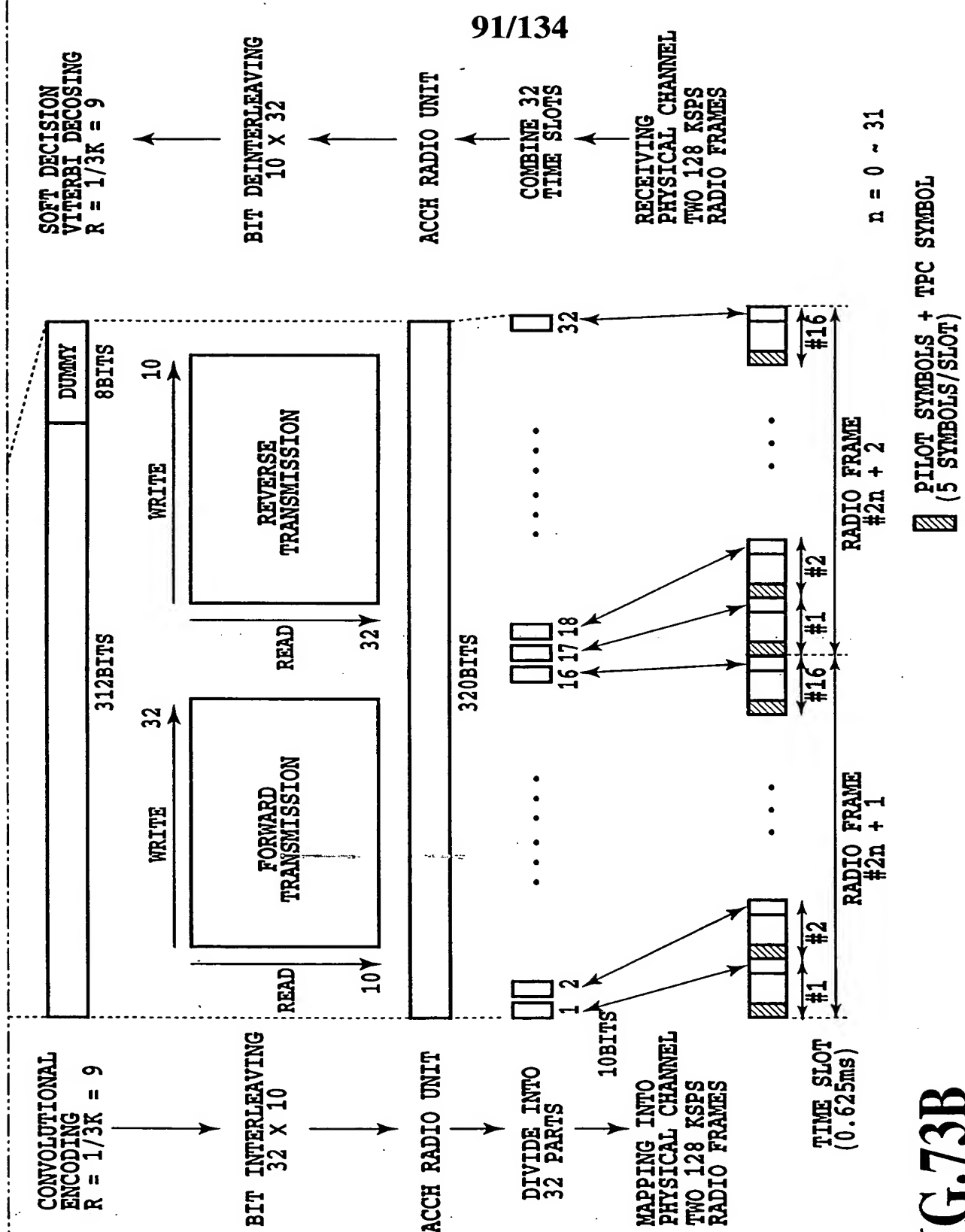


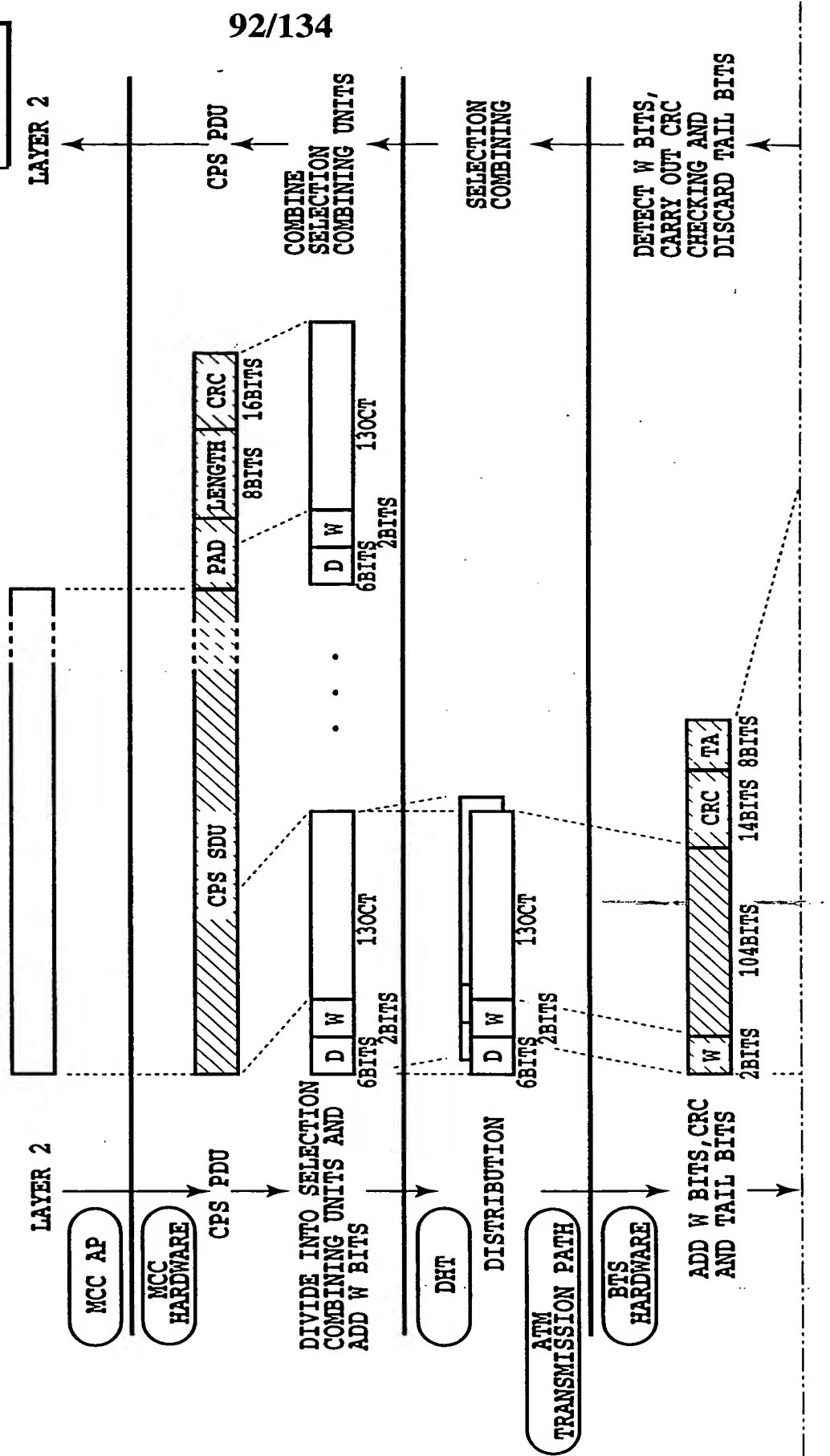
FIG.73B

FIG.74

FIG.74A

FIG.74B

FIG.74A



CONVOLUTIONAL
ENCODING
 $R = 1/3K = 9$

BIT INTERLEAVING
 16×24

ACCH RADIO UNIT

DIVIDE INTO
16 PARTS

24BITS
MAPPING INTO
PHYSICAL CHANNEL
ONE 256 KSPS
RADIO FRAMES

TIME SLOT
(0.625ms)

SOFT DECISION
VITERBI DECODING
 $R = 1/3K = 9$

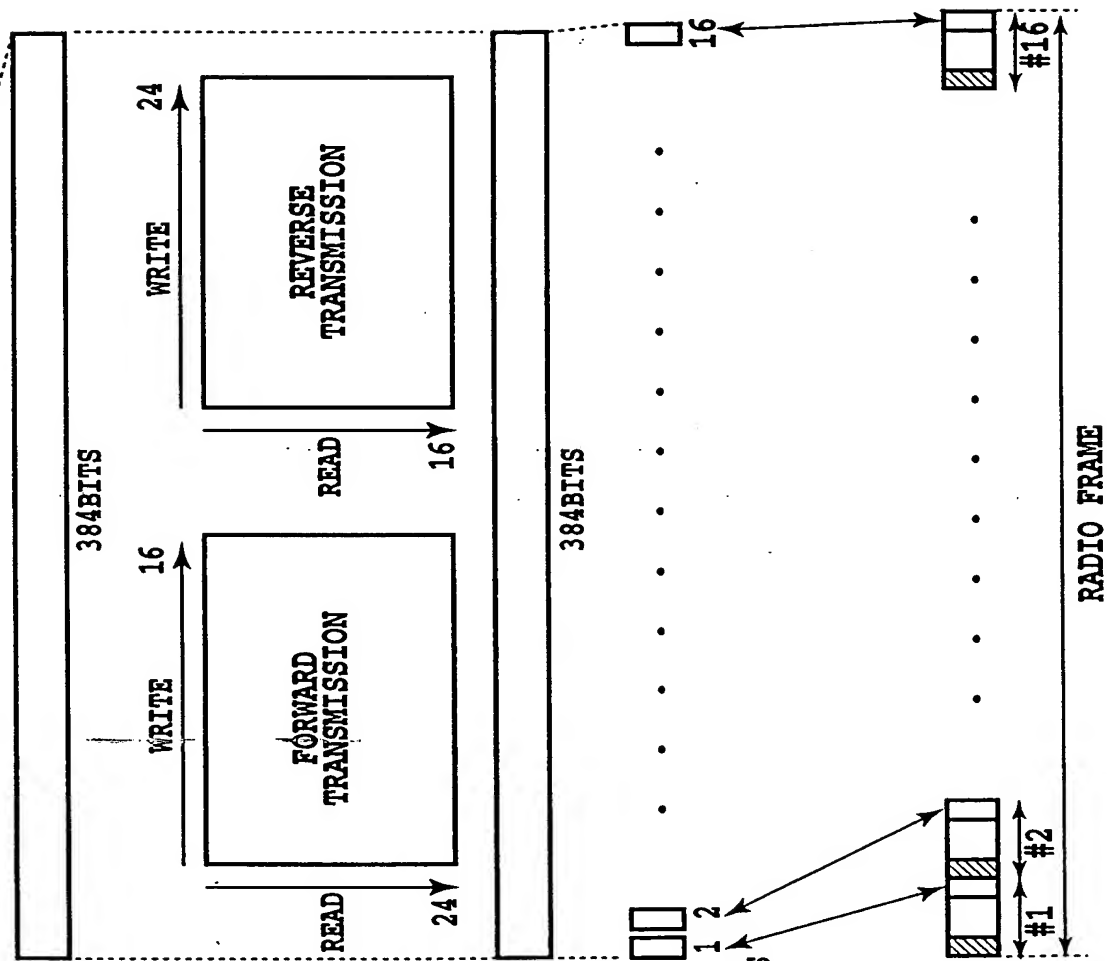
BIT DEINTERLEAVING
 24×16

ACCH RADIO UNIT

COMBINE 16
TIME SLOTS

RECEIVING
PHYSICAL CHANNEL
ONE 256 KSPS
RADIO FRAMES

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PILOT SYMBOLS + TPC SYMBOL
(9 SYMBOLS/SLOT)

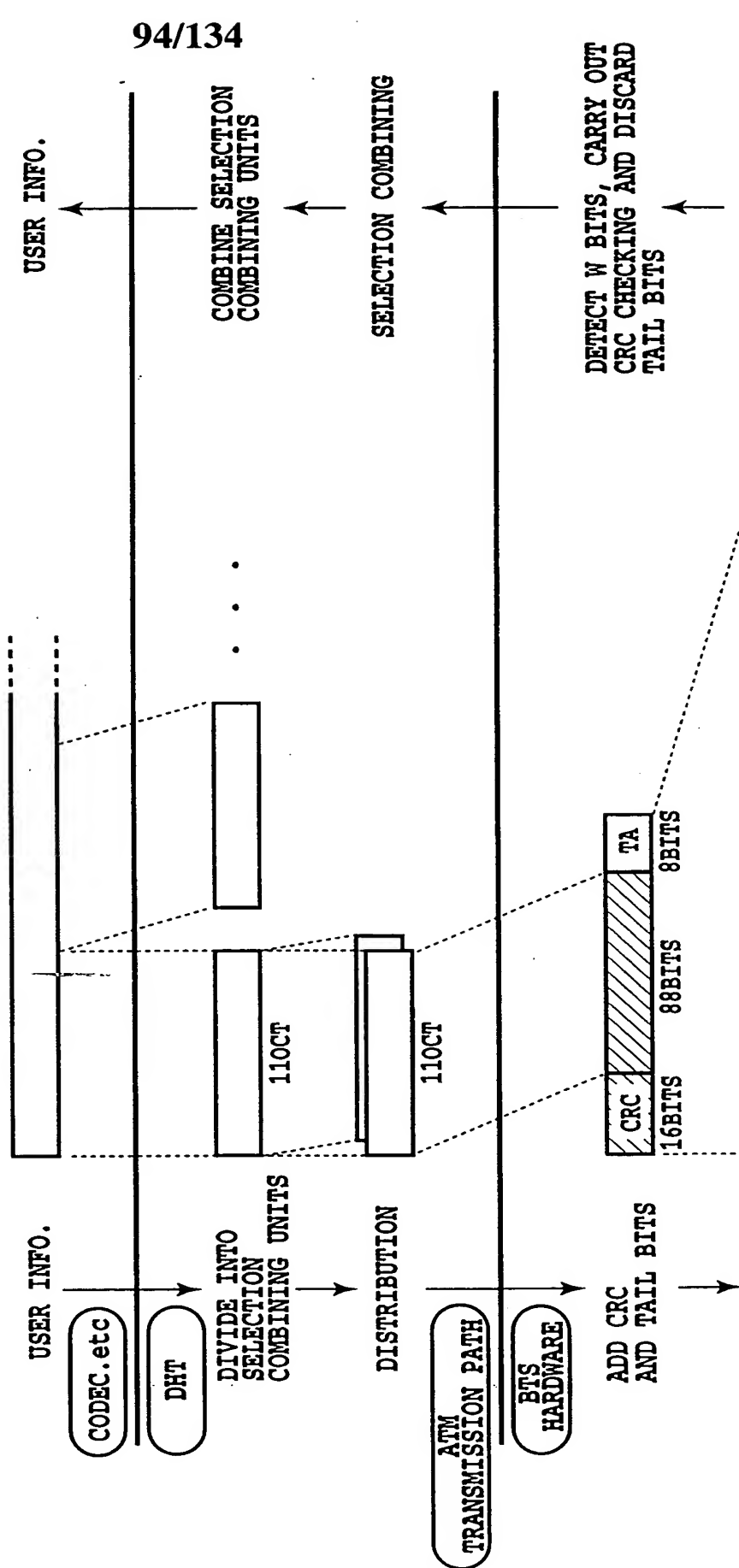
FIG.74B

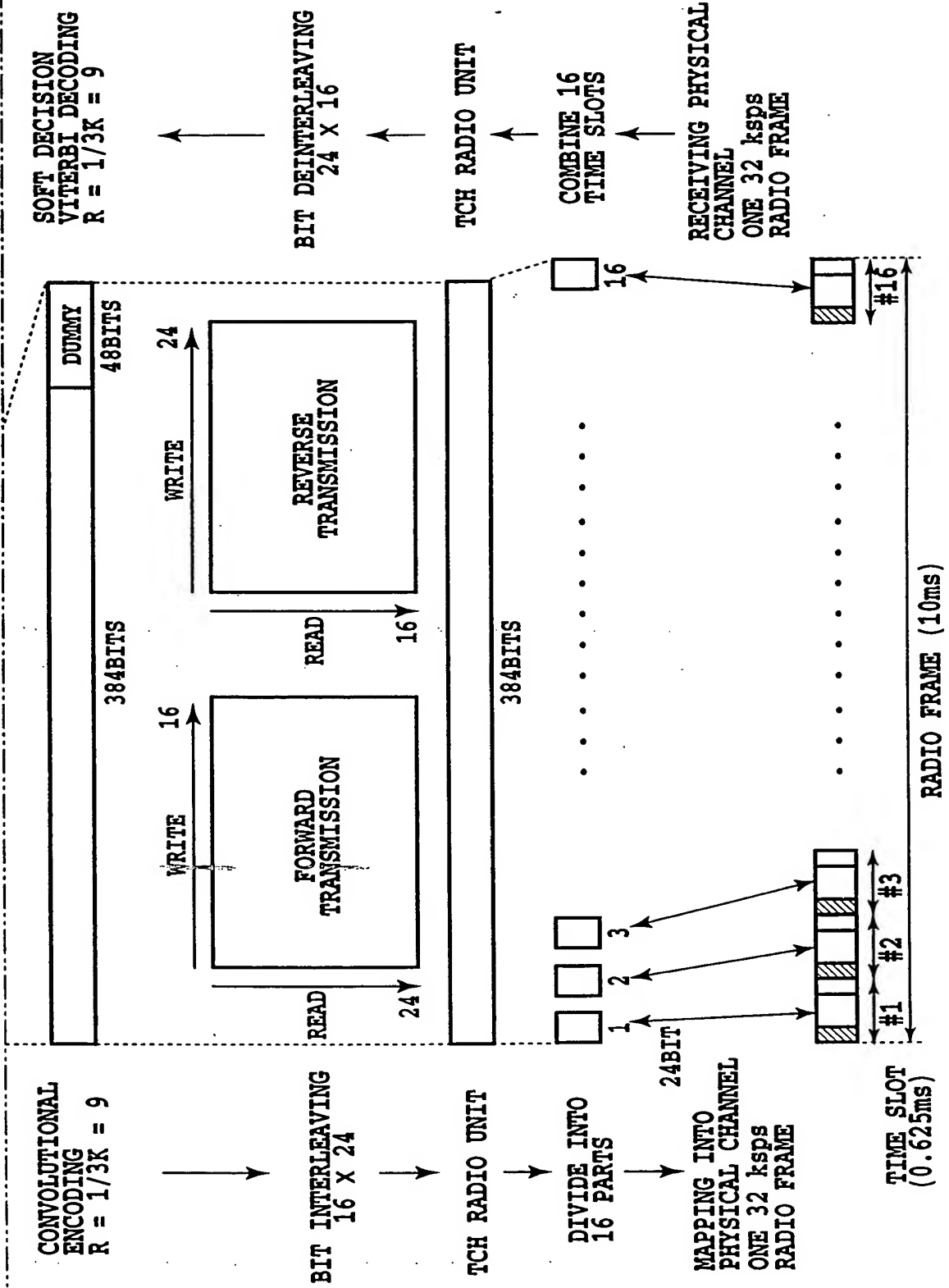
FIG.75A

FIG.75

FIG.75A

FIG.75B





PILOT SYMBOLS + TPC SYMBOL
(5 SYMBOLS/SLOT)

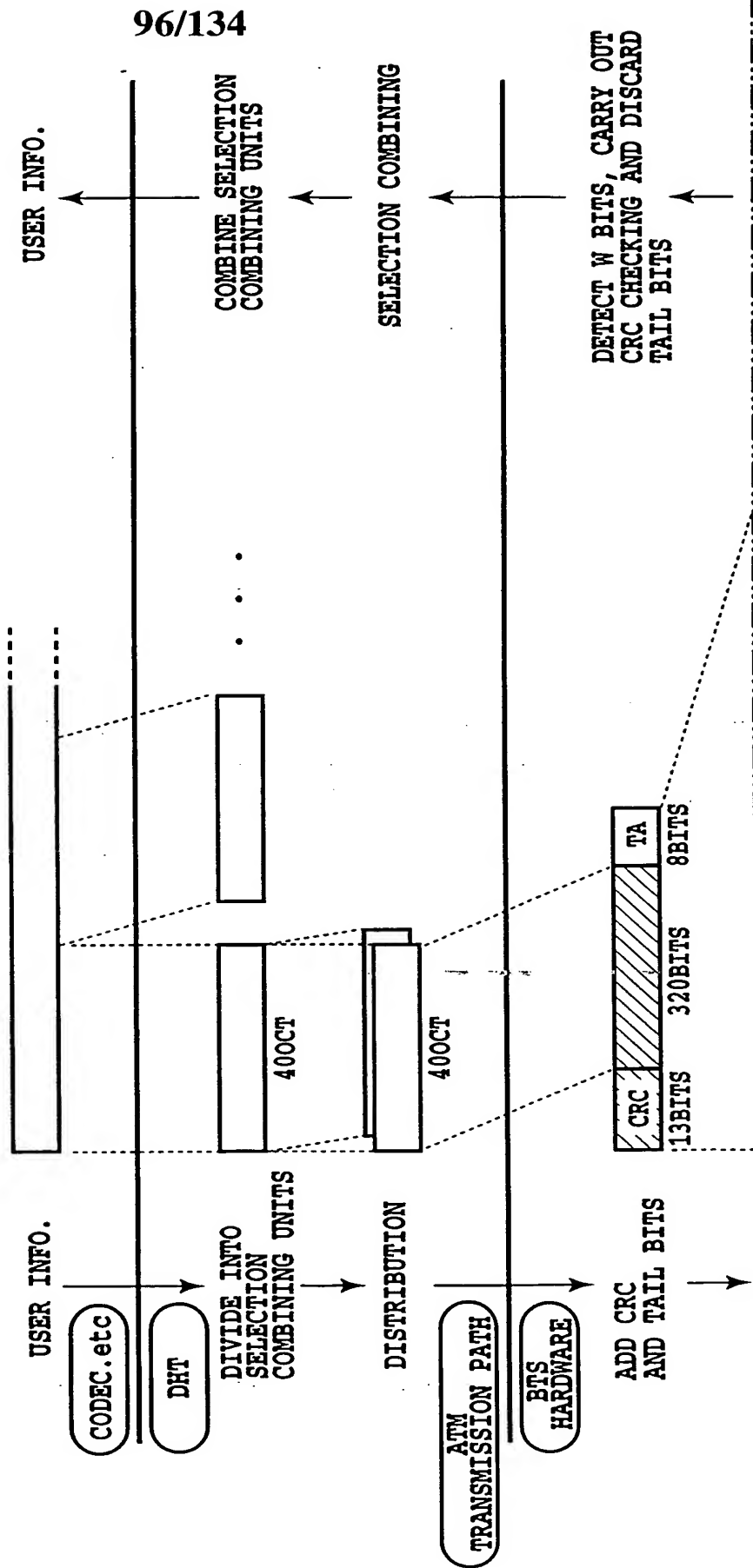
FIG.75B

FIG.76

FIG.76A

FIG.76B

FIG.76A



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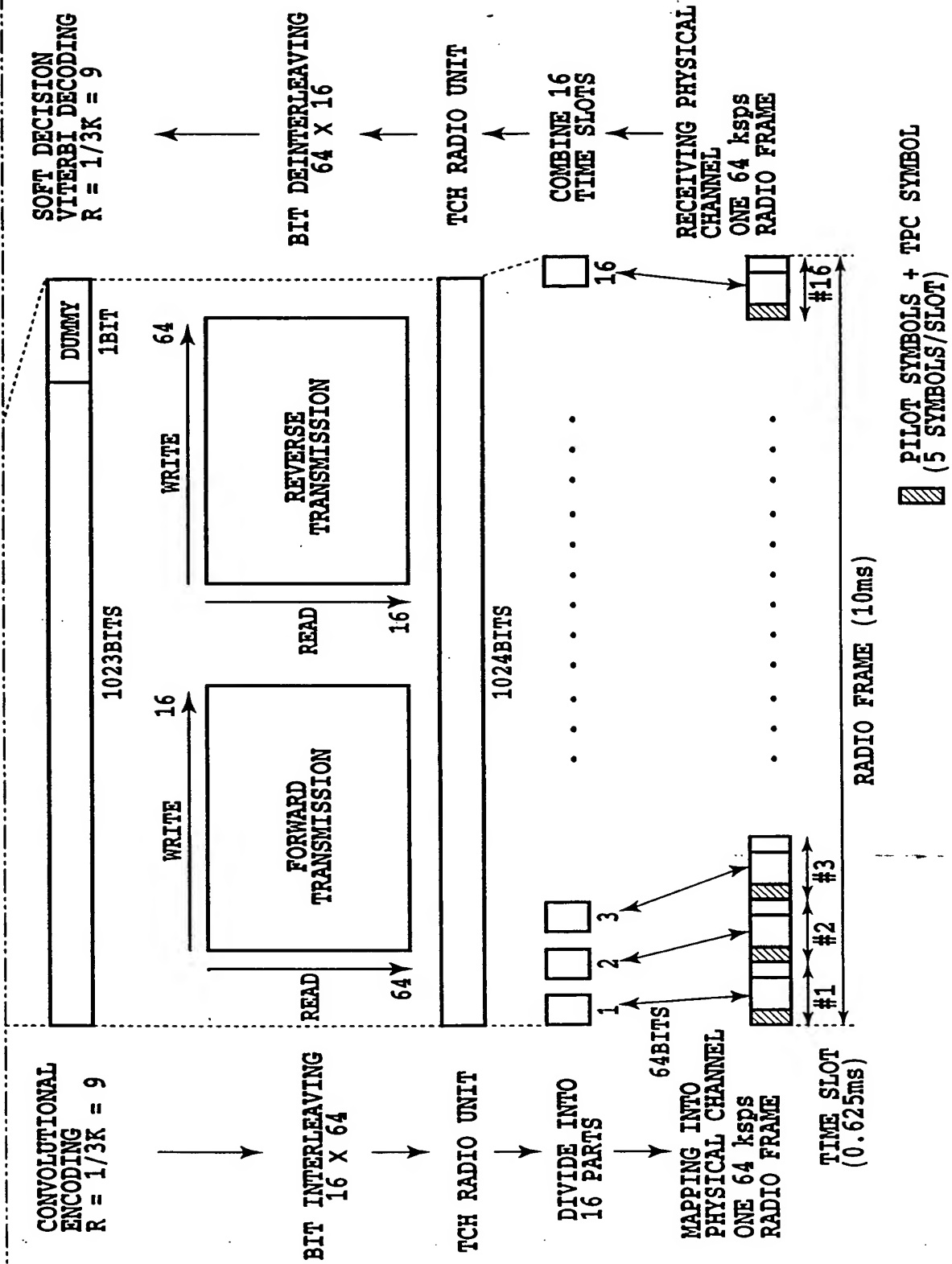


FIG.76B

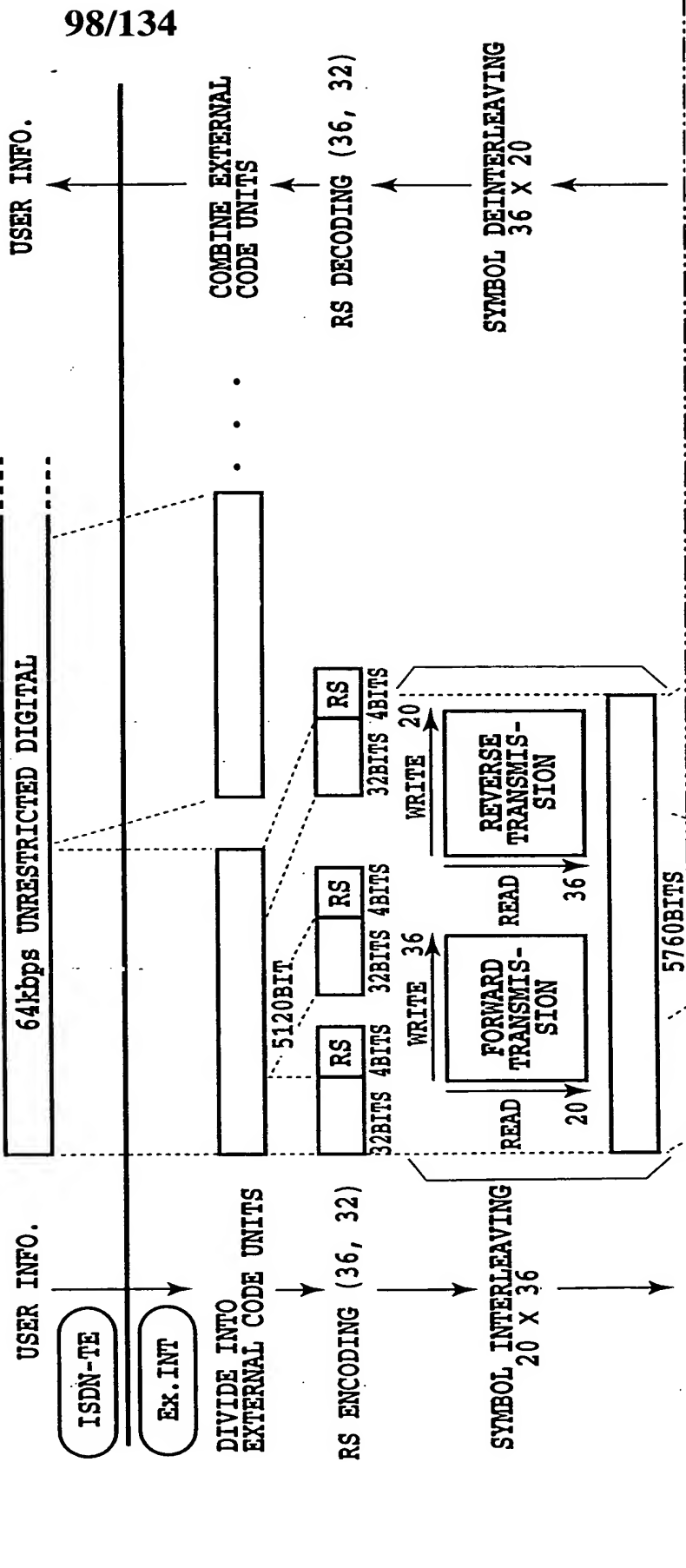
FIG.77

FIG.77A

FIG.77B

FIG.77C

FIG.77A



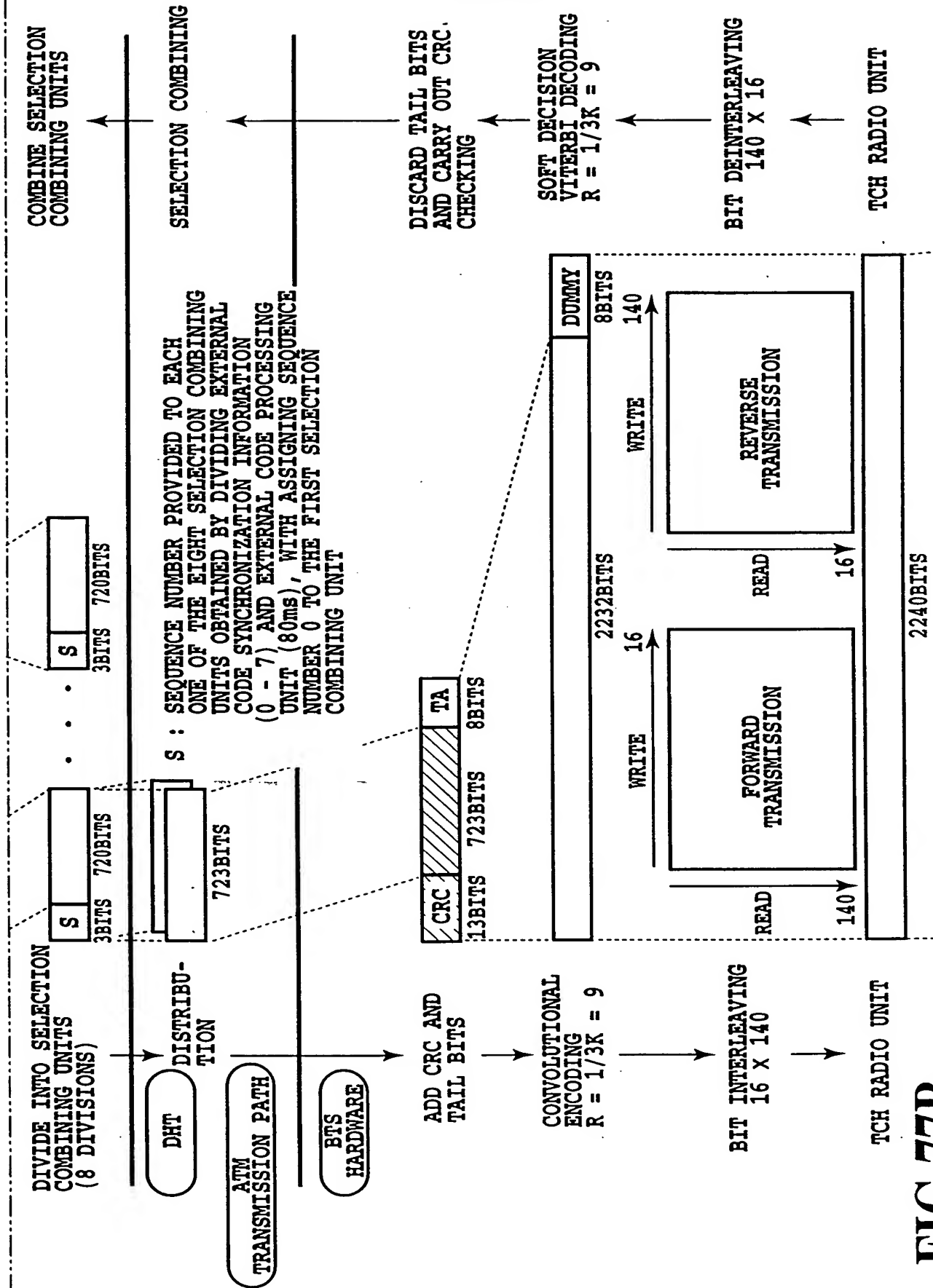


FIG.77B

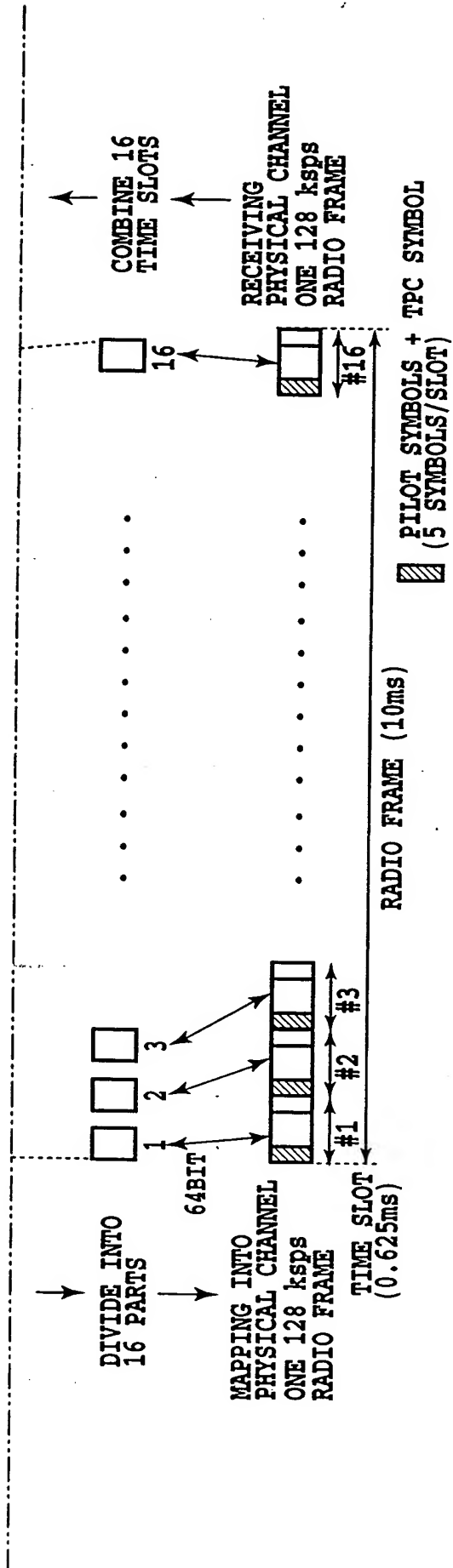


FIG.77C

FIG.78

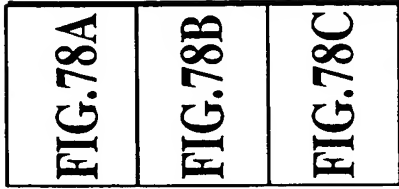
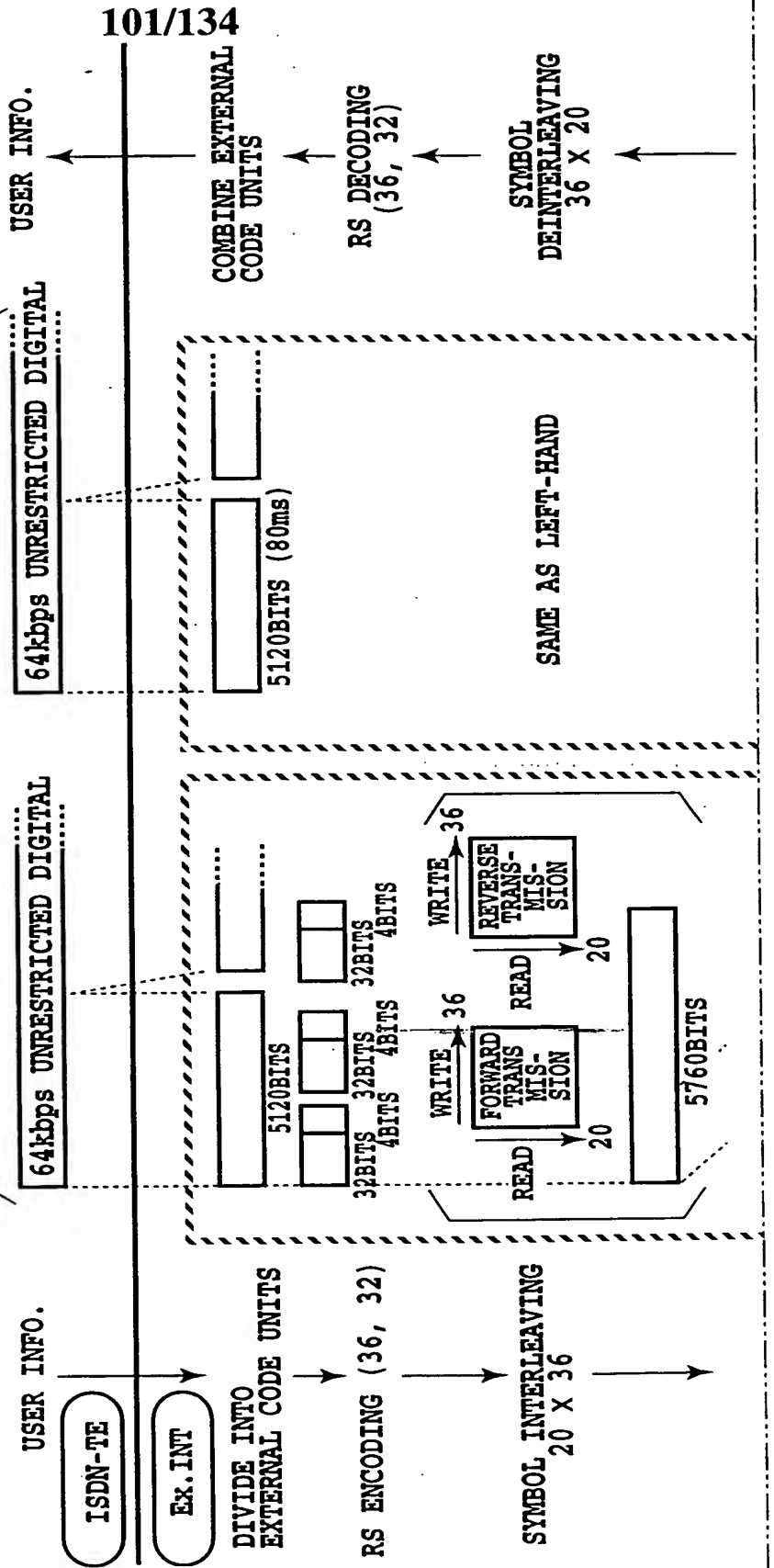
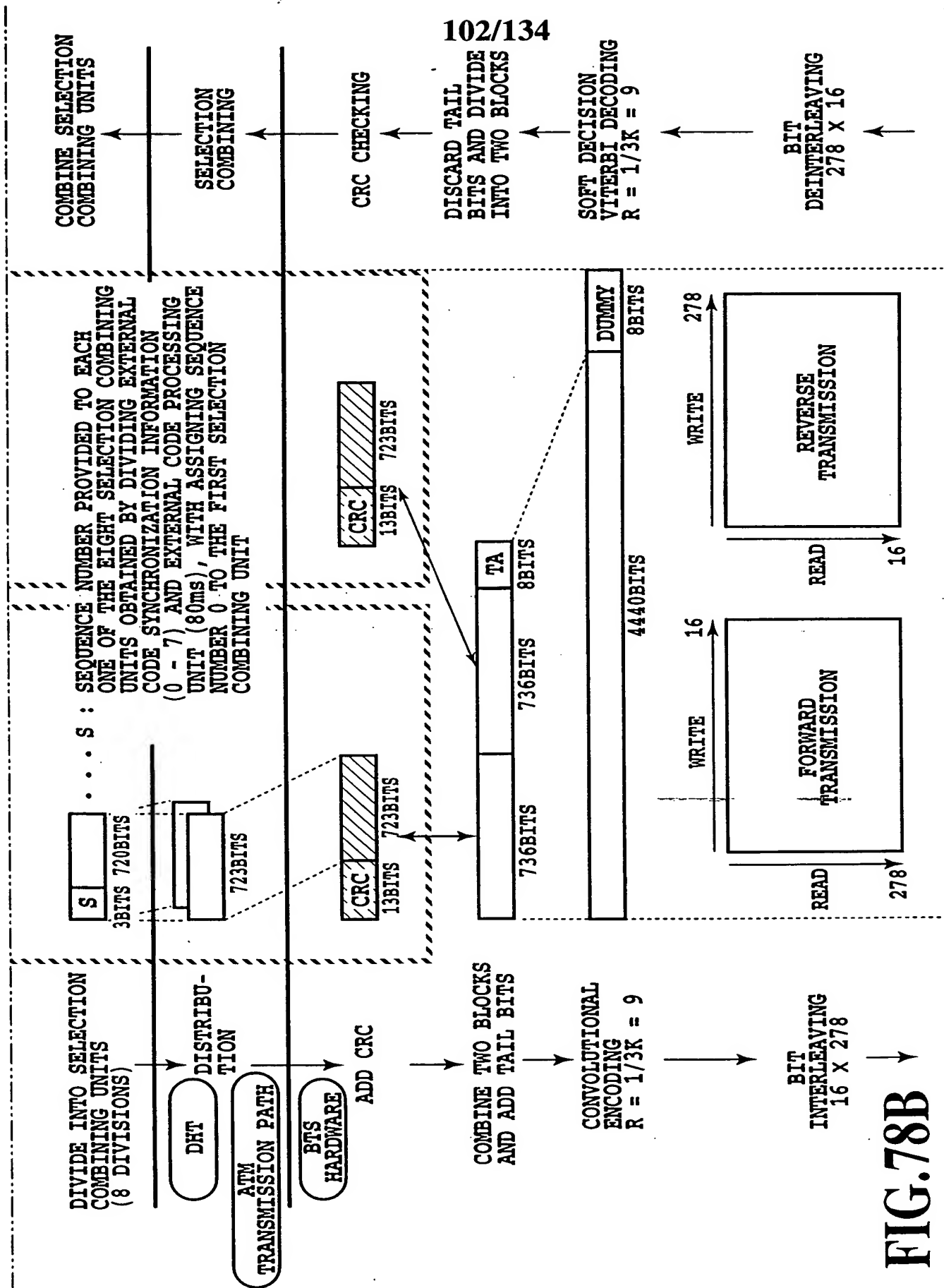


FIG.78A

2B = 128kbps





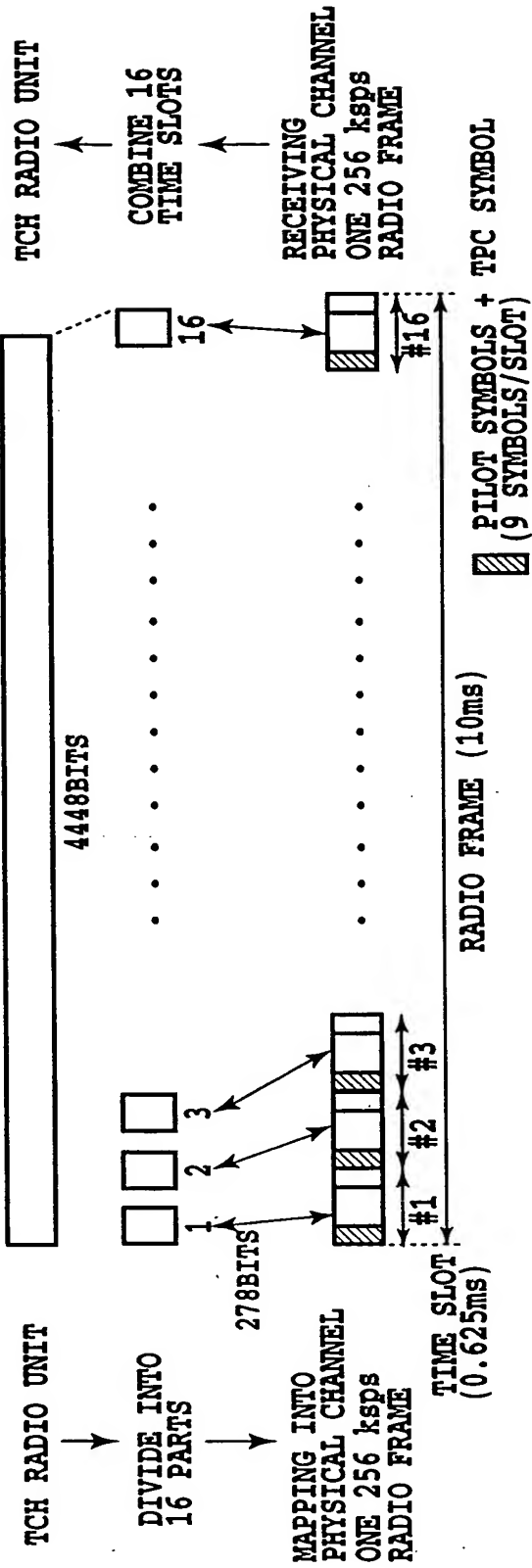


FIG.78C

FIG.79

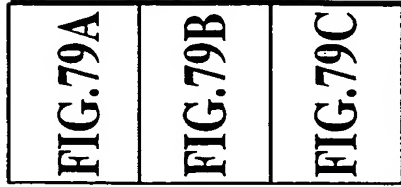
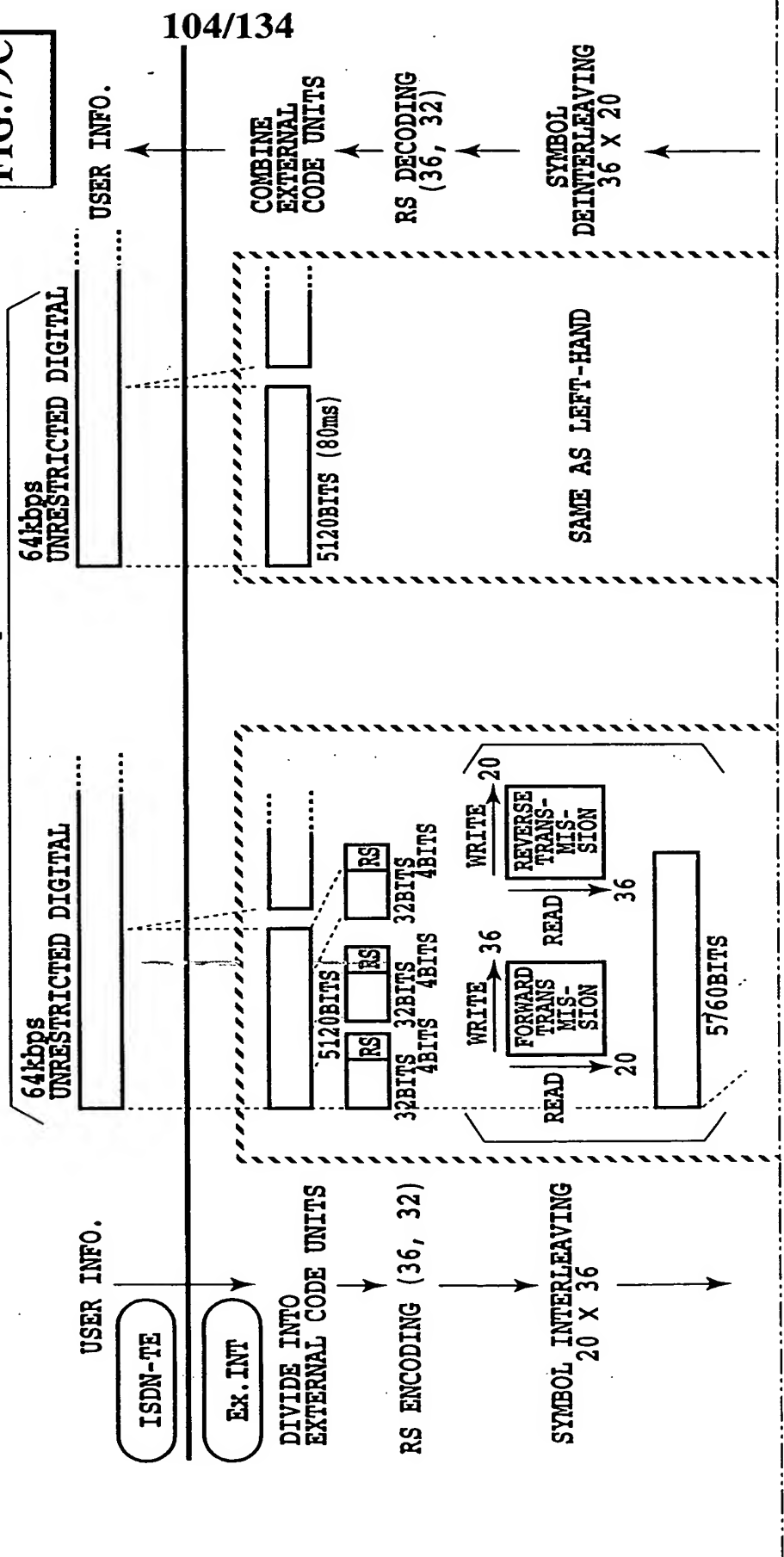


FIG.79A

4B = 256kbps



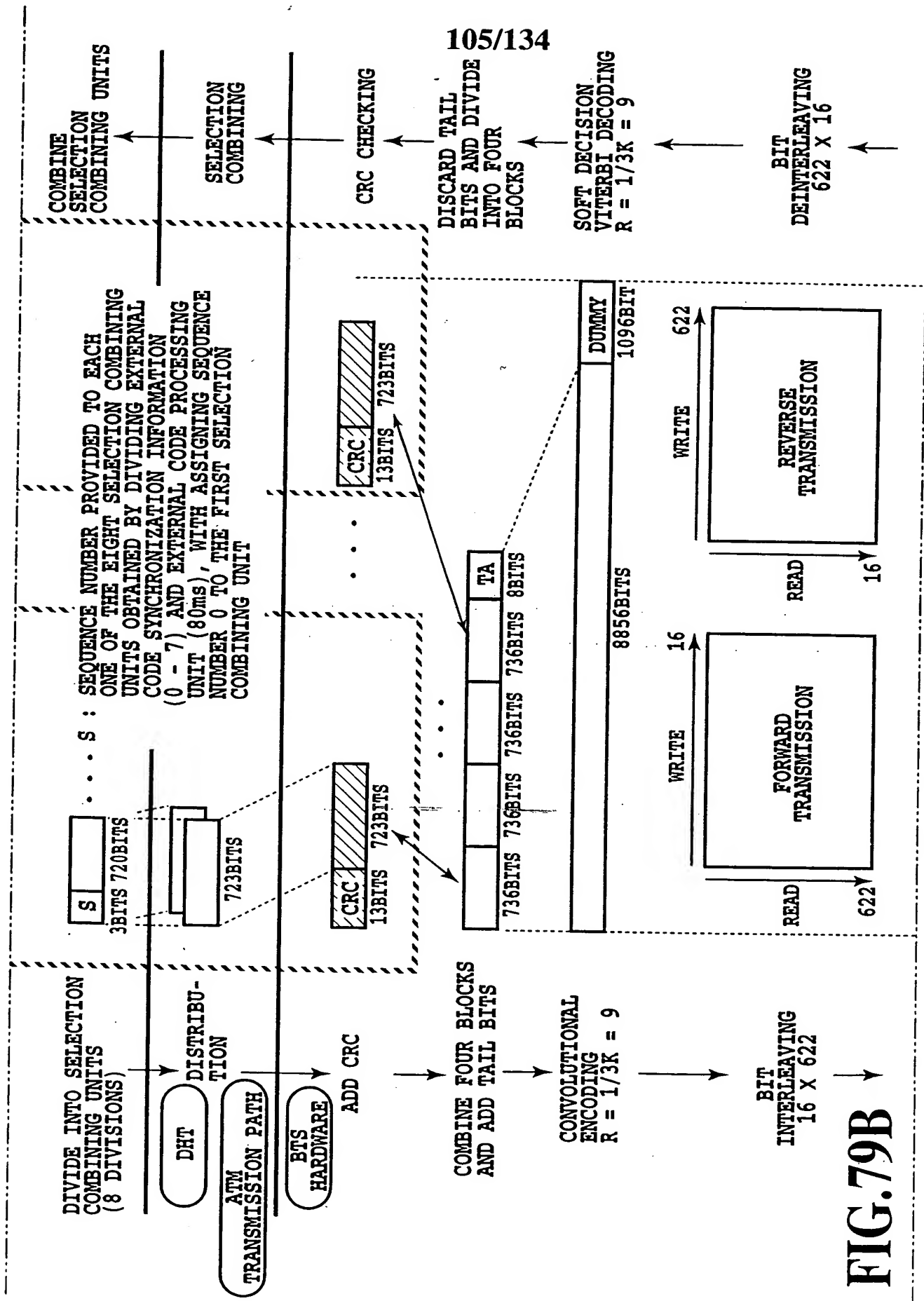


FIG.79B

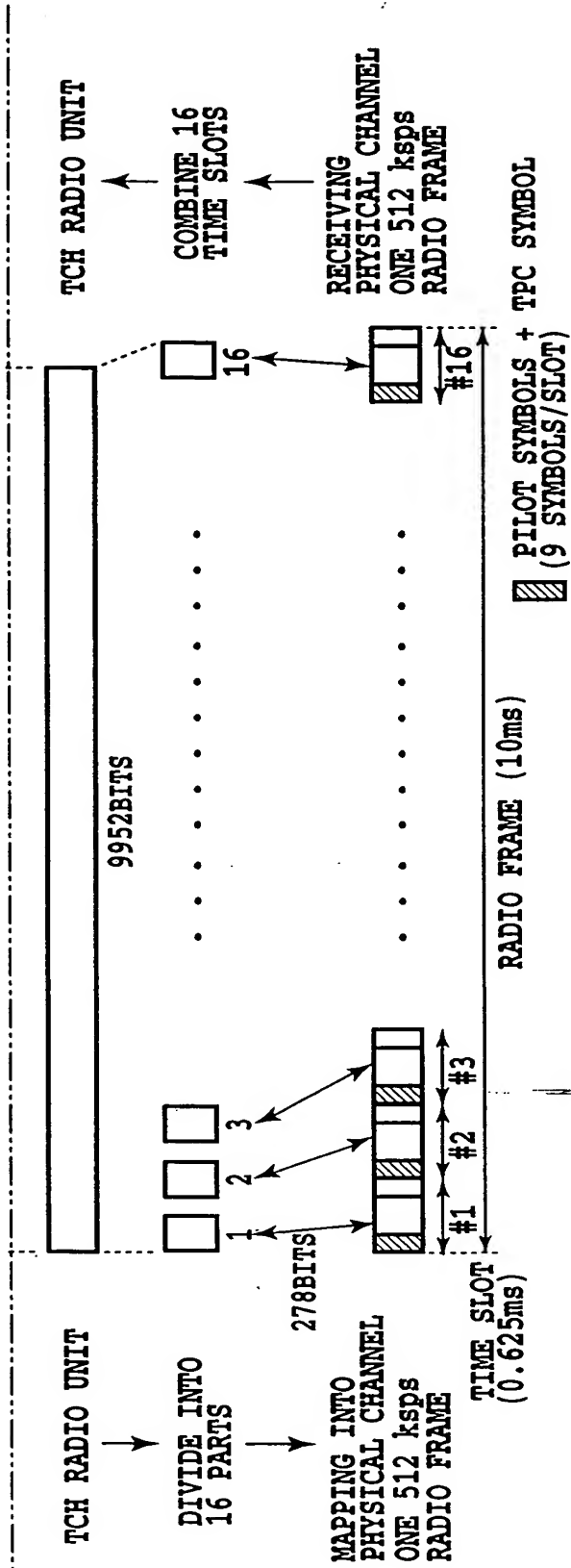


FIG.79C

FIG.80

FIG.80A

FIG.80B

FIG.80C

FIG.80A

6B = 384kbps

64kbps UNRESTRICTED DIGITAL

64kbps UNRESTRICTED DIGITAL

USER INFO.

ISDE-TE

Ex. INT

DIVIDE INTO EXTERNAL CODE UNITS

RS ENCODING (36, 32)

SYMBOL INTERLEAVING
20 X 36

USER INFO.

COMBINE EXTERNAL CODE UNITS

RS ENCODING (36, 32)

SYMBOL DEINTERLEAVING
36 X 20

SAME AS LEFT-HAND

5120BITS (80ms)

5120BITS
32BITS 32BITS 4BITS
RS RS RS
4BITS 4BITS 4BITS

WRITE 36
FORWARD TRANS-MISSION
READ 20
WRITE 20
REVERSE TRANS-MISSION
READ 36
5760BITS

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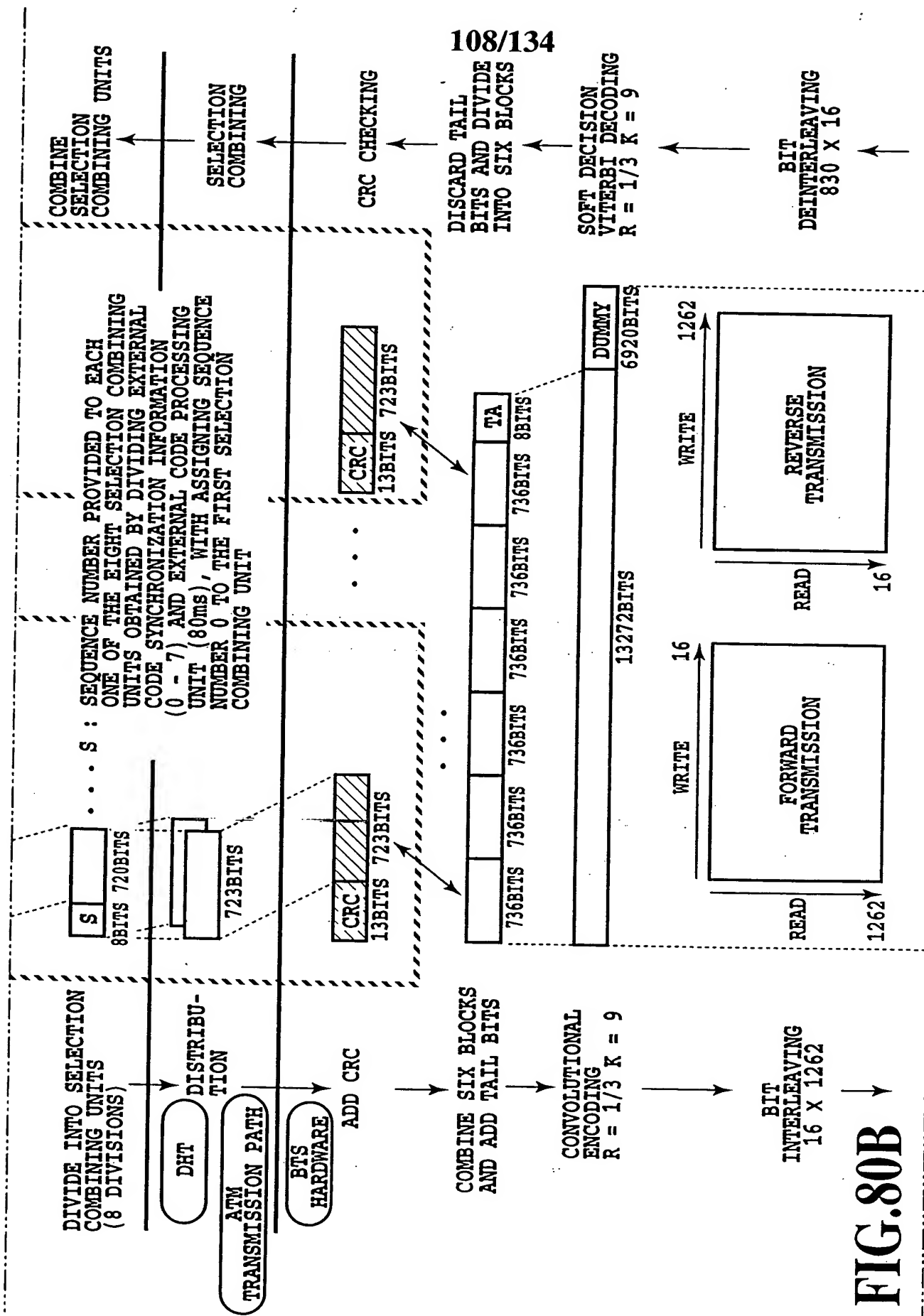


FIG.80B

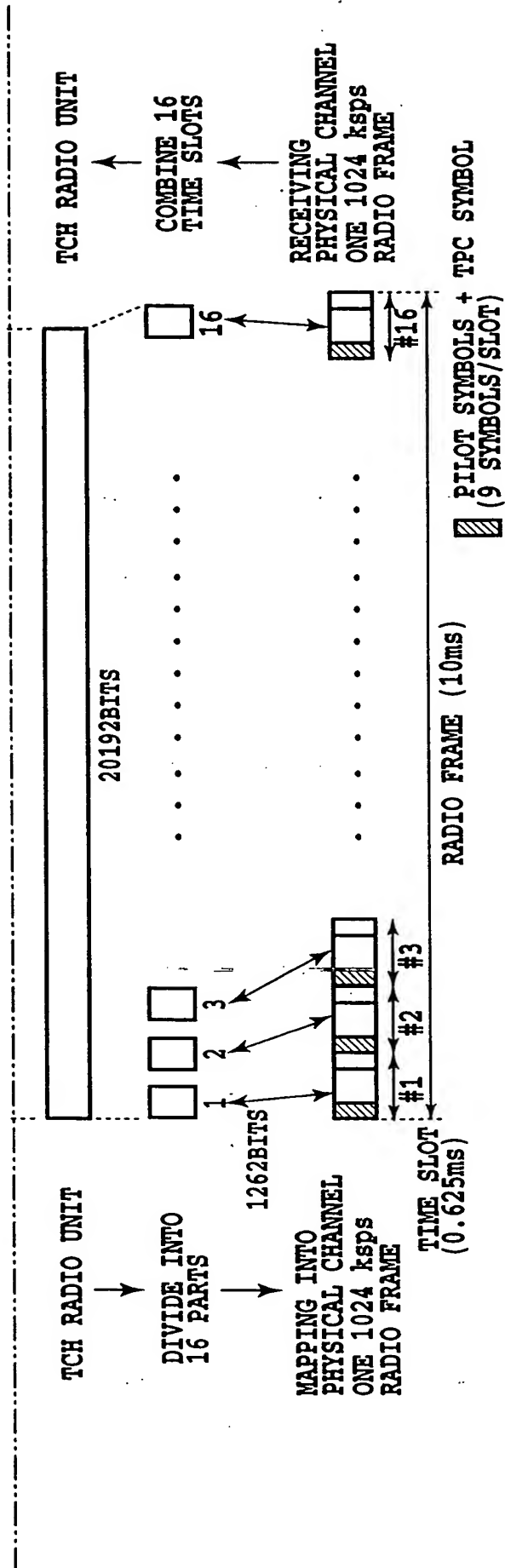


FIG.80C

FIG.81

FIG.81A

FIG.81A

FIG.81B

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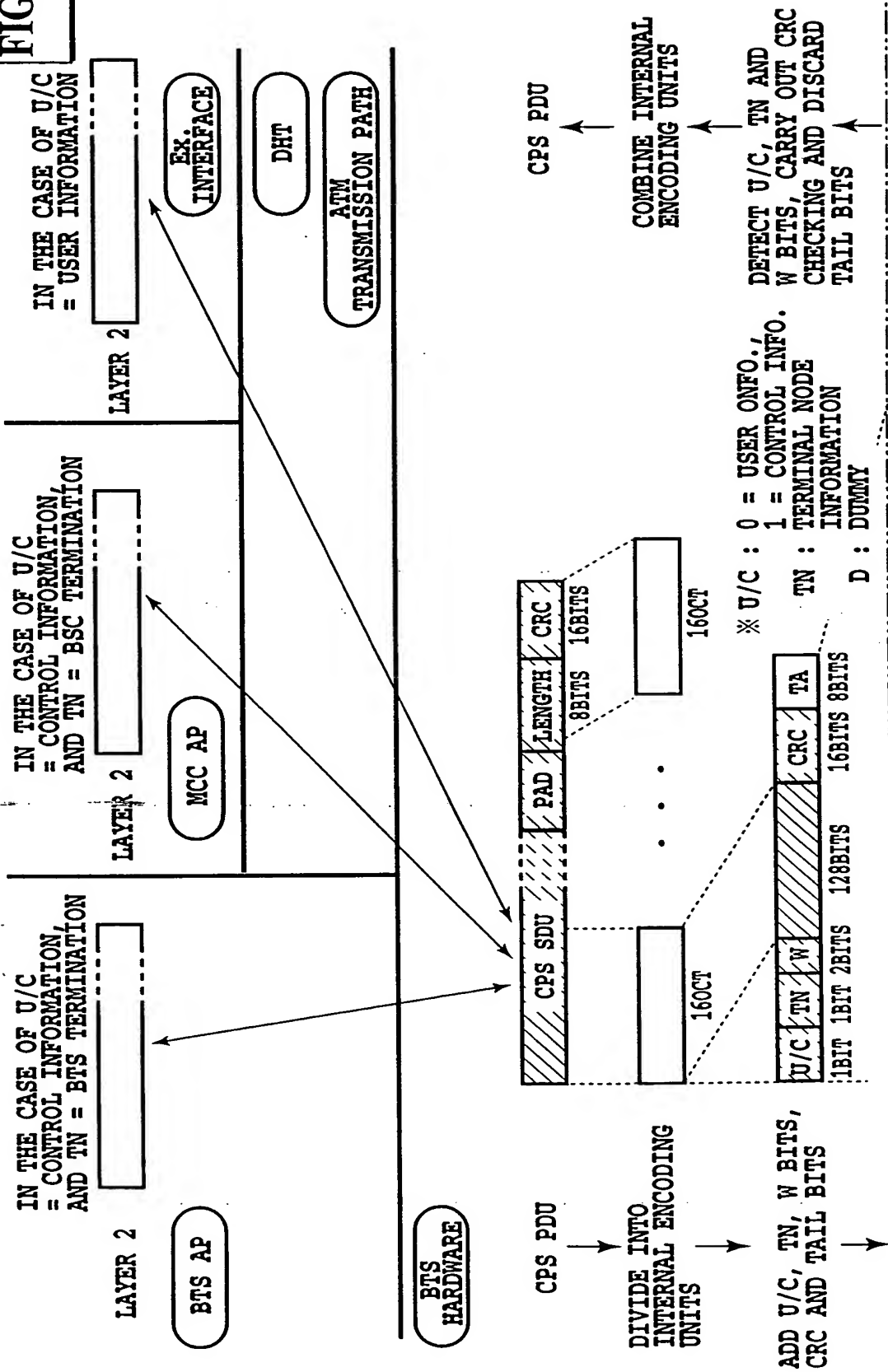




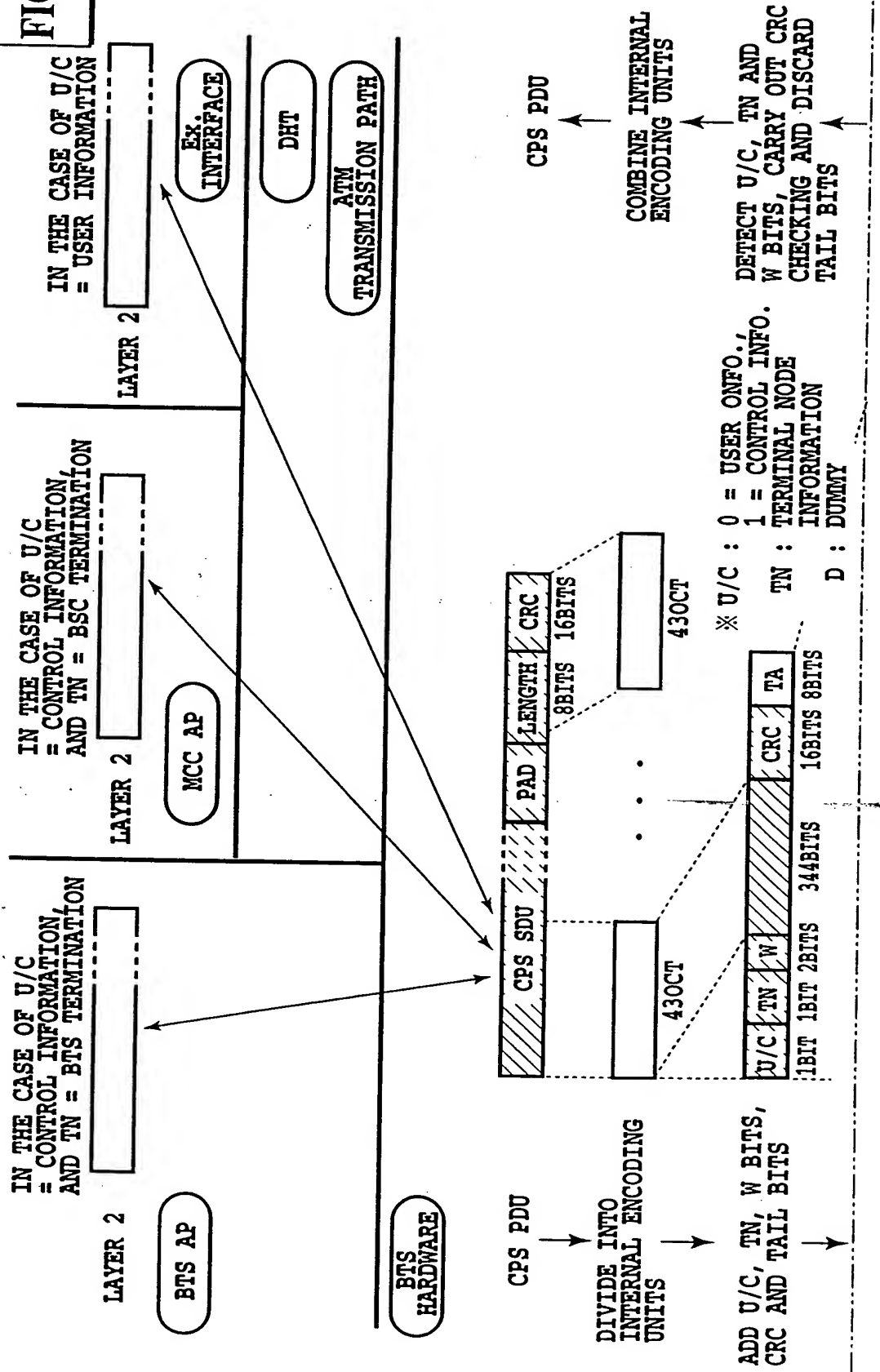
FIG.82

FIG.82A

FIG.82B

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FIG.82A



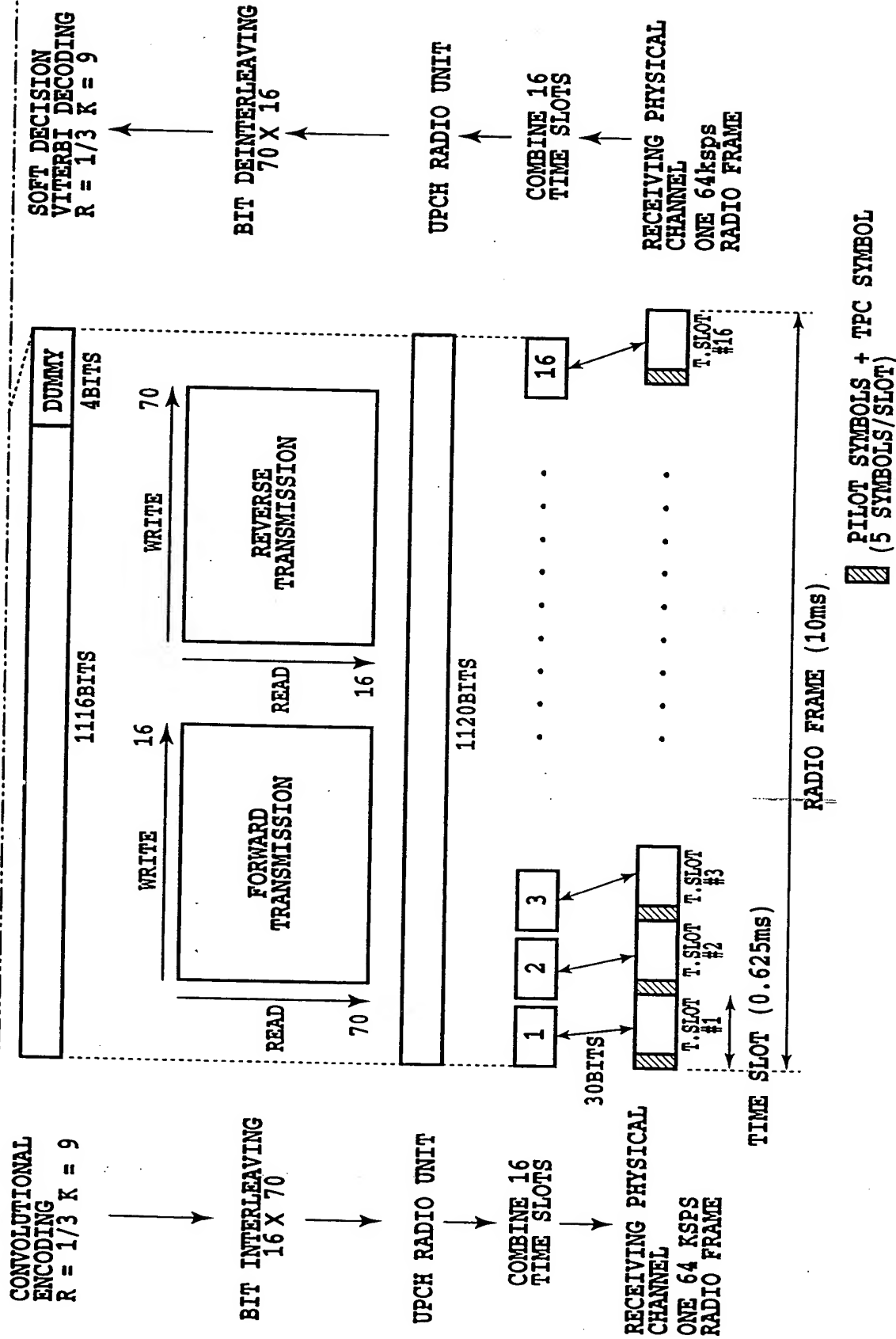


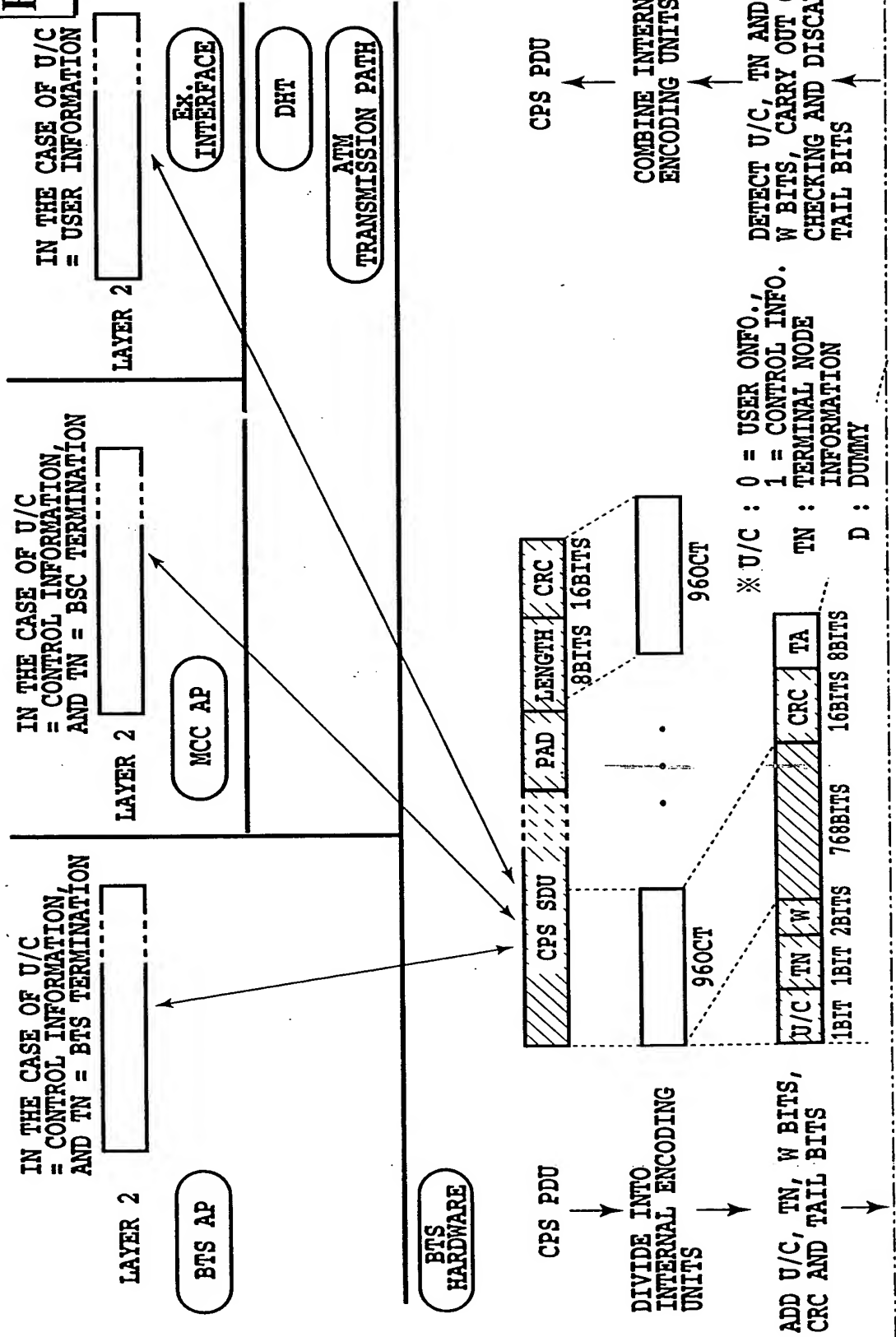
FIG.82B

FIG.83

FIG.83A

FIG.83A

FIG.83B



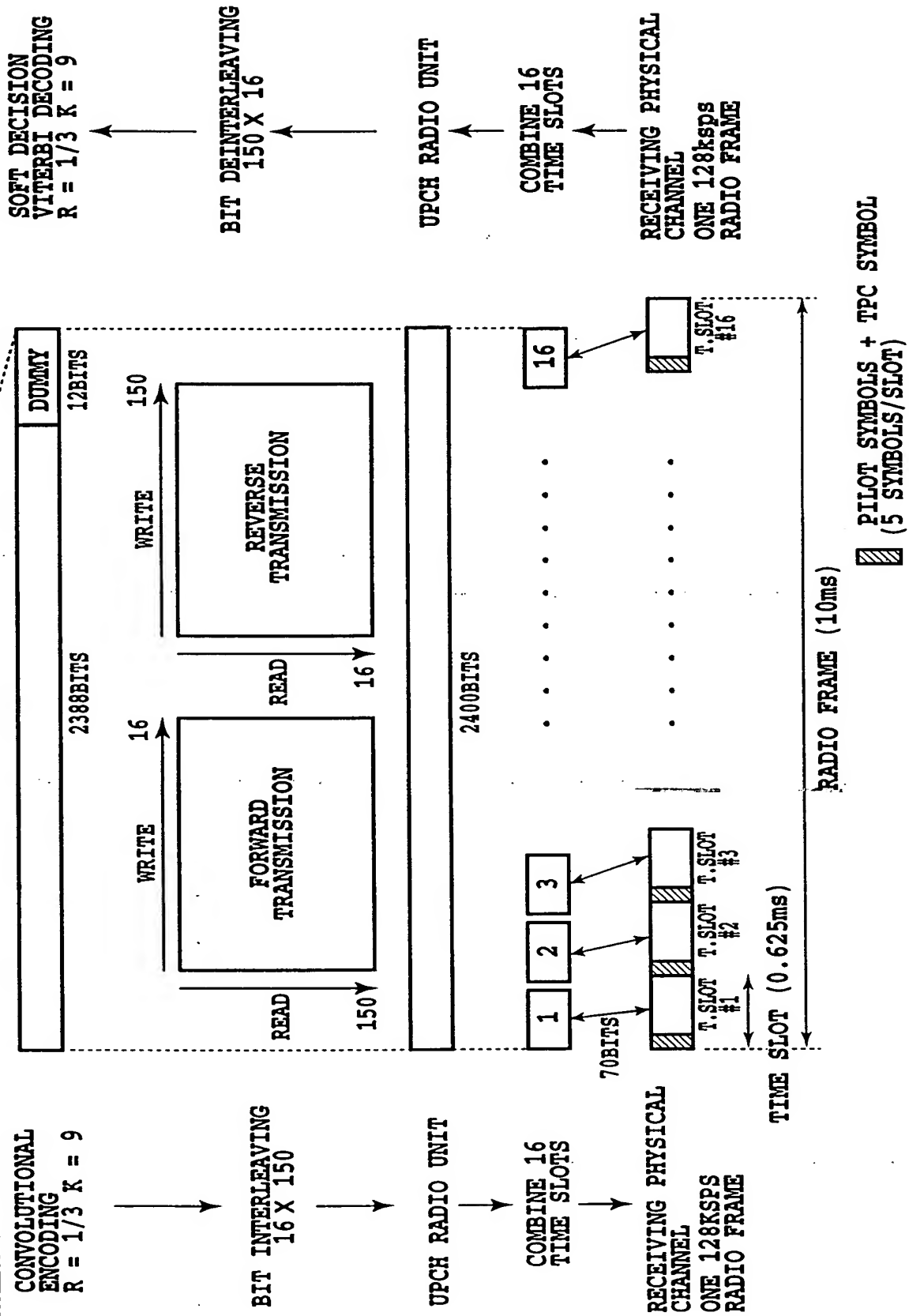


FIG.83B

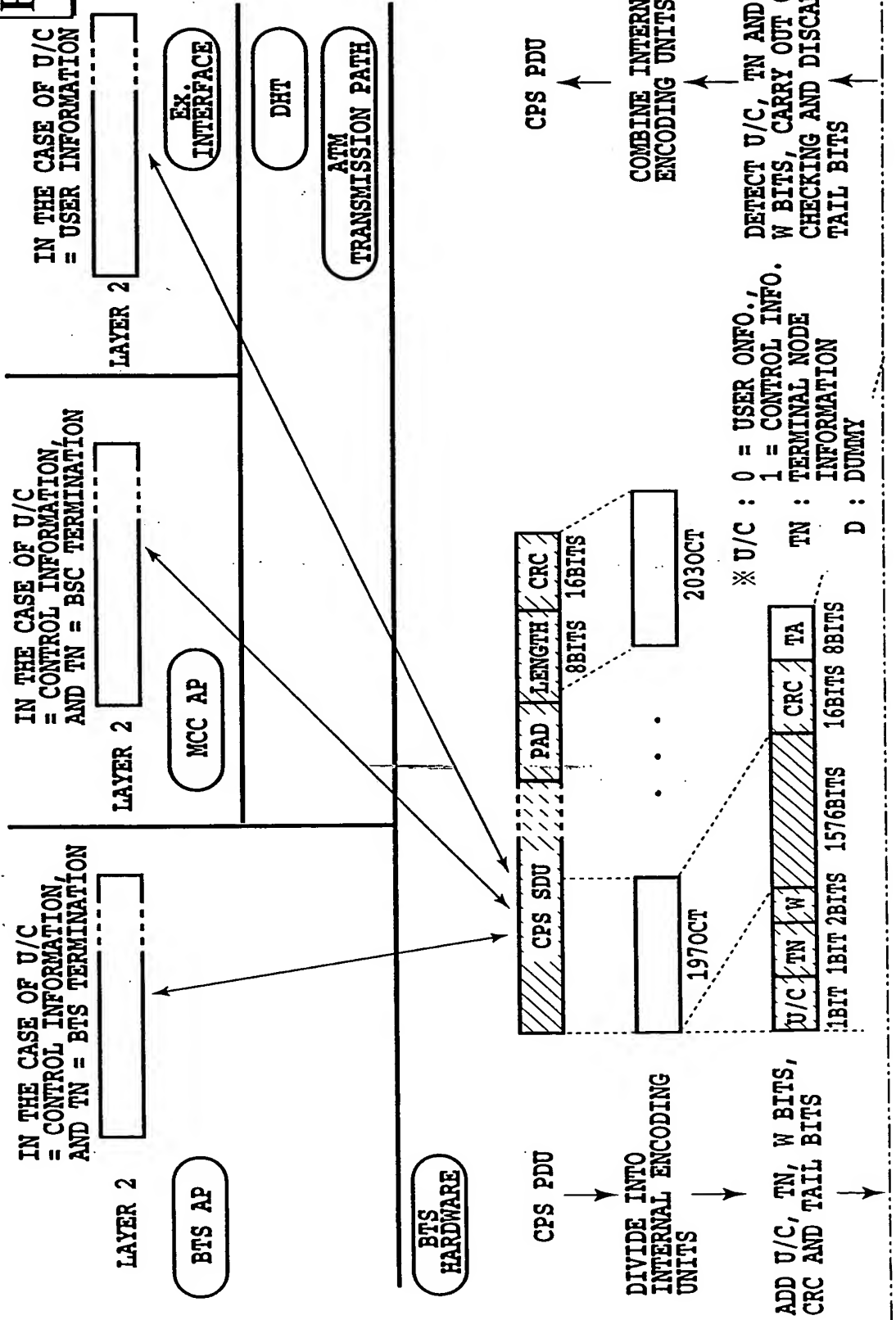
FIG.84

FIG.84A

FIG.84B

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FIG.84A



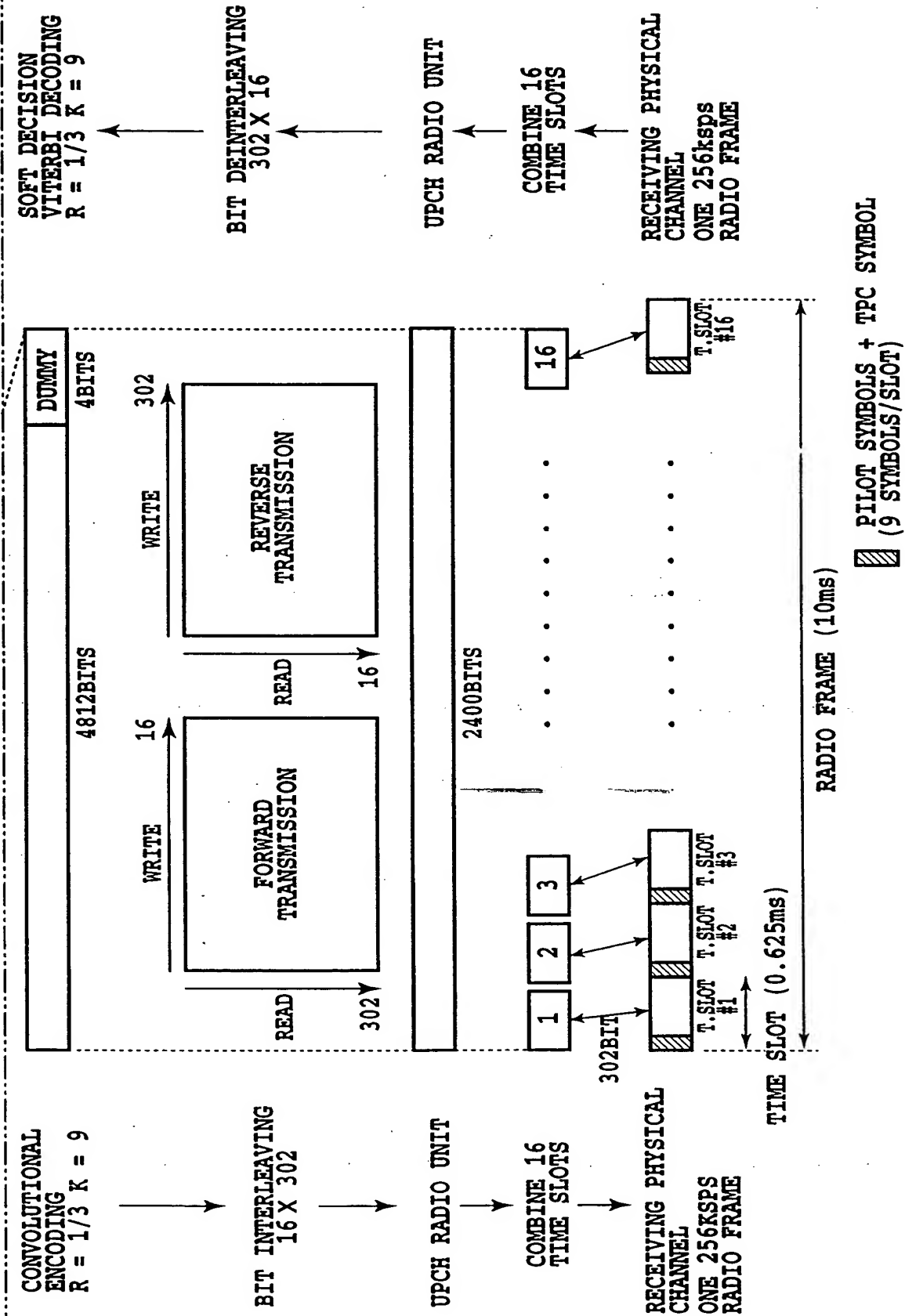


FIG.84B

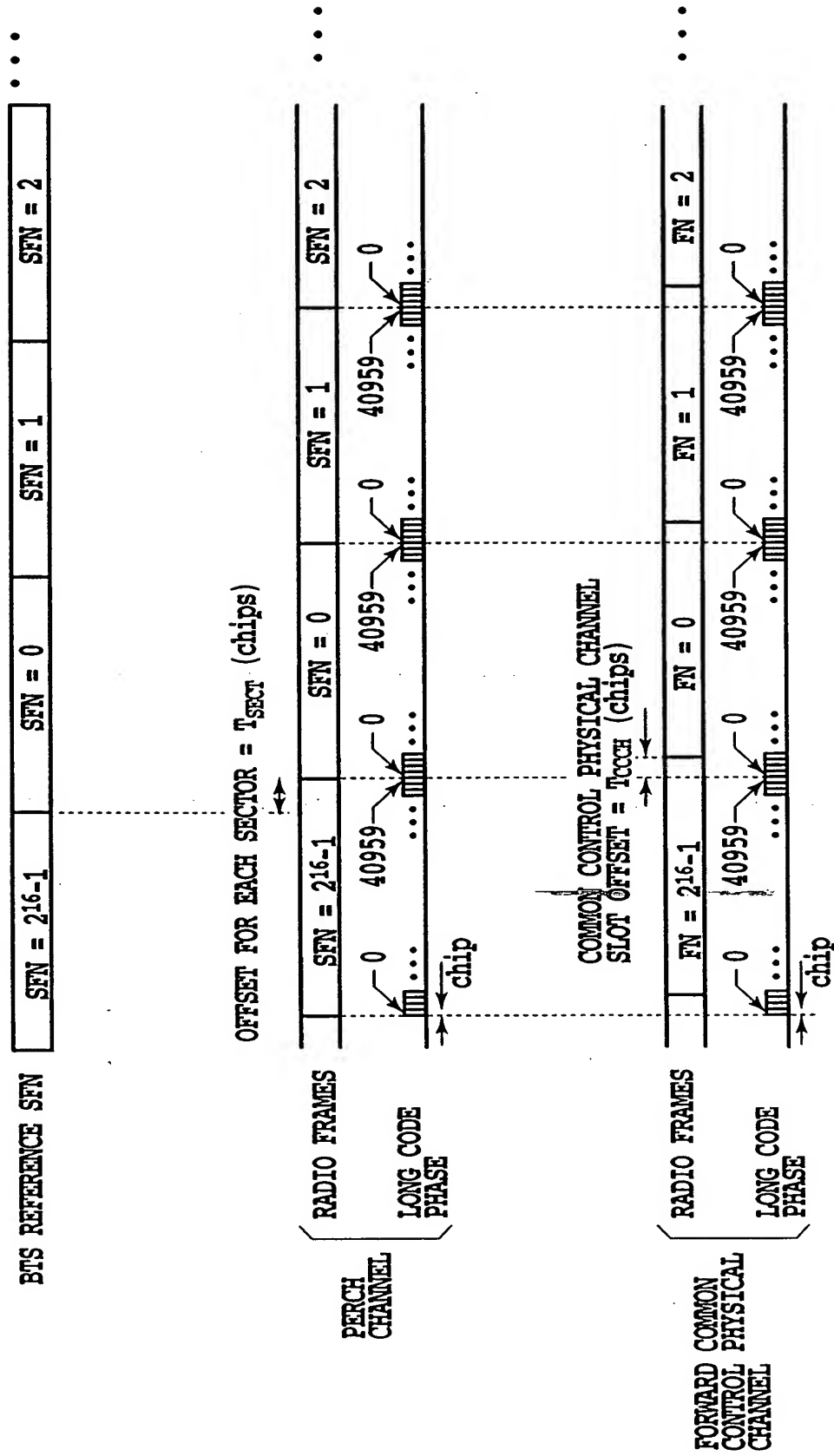


FIG.85

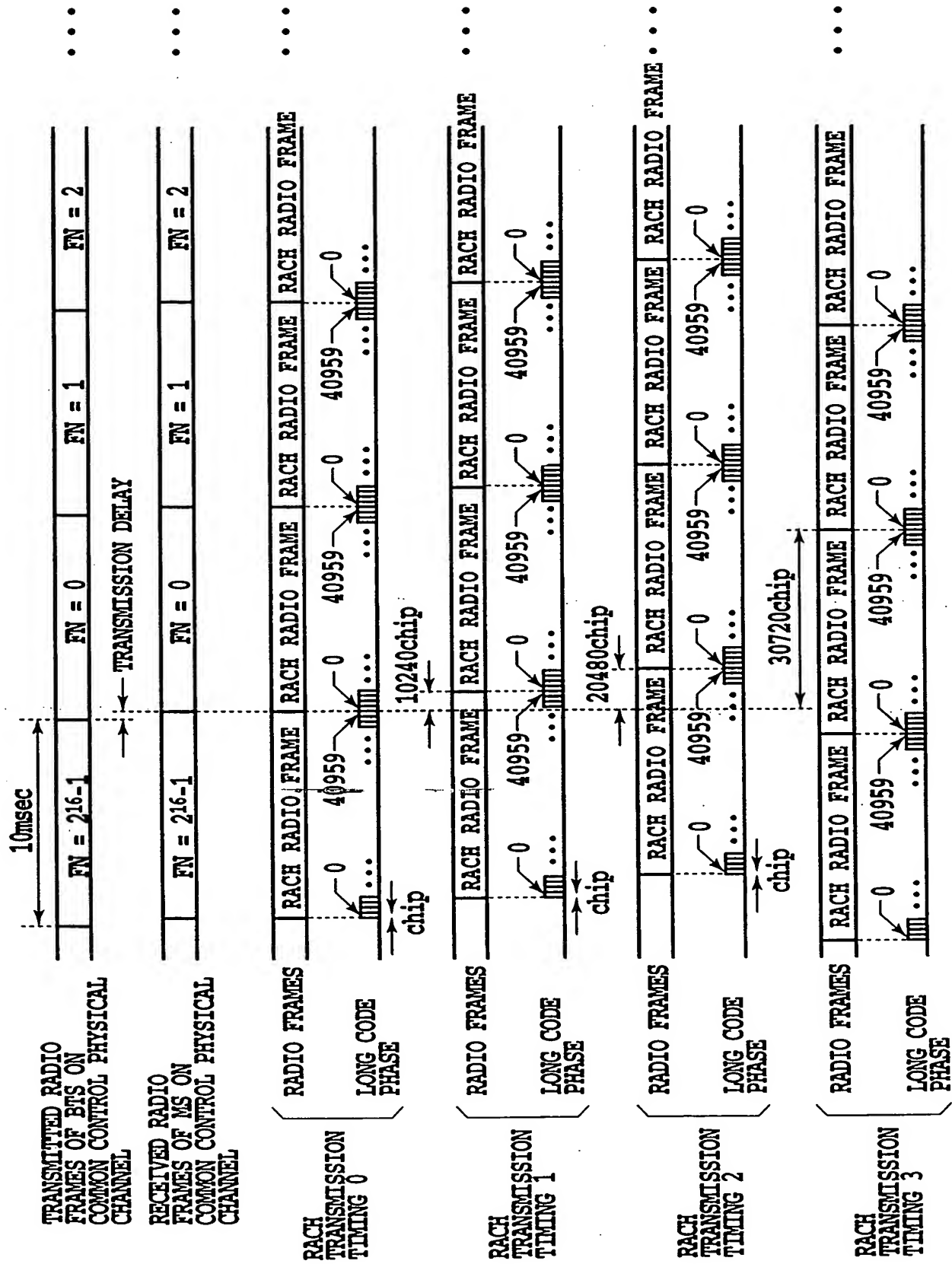


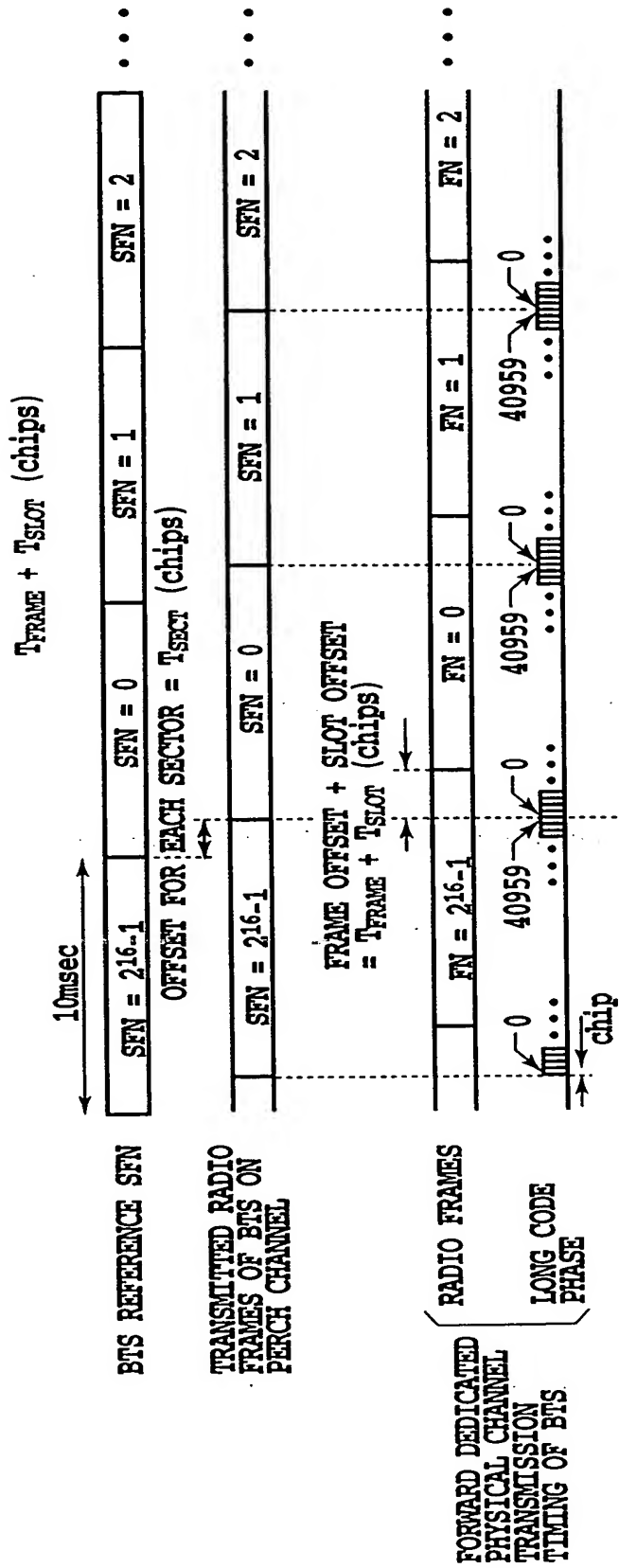
FIG.86

FIG.87

FIG.87A
FIG.87B

FIG.87A

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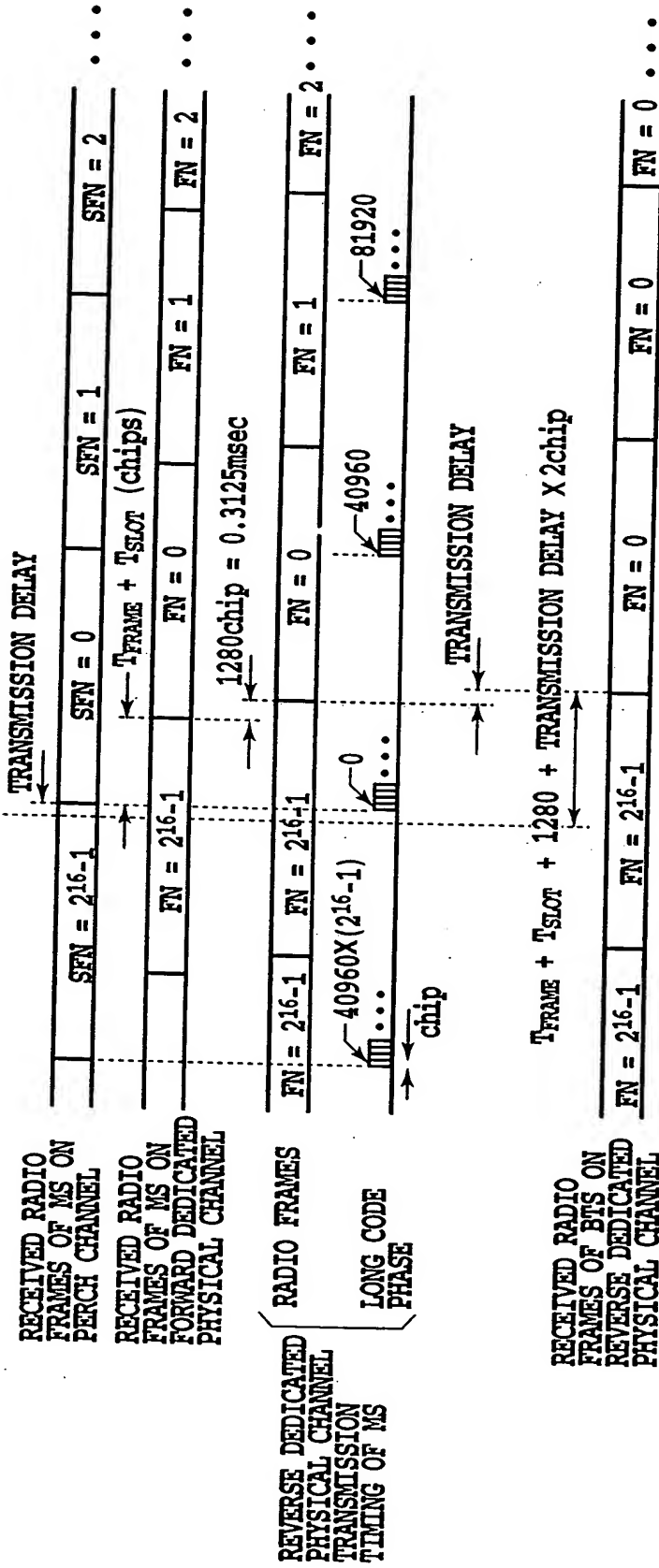
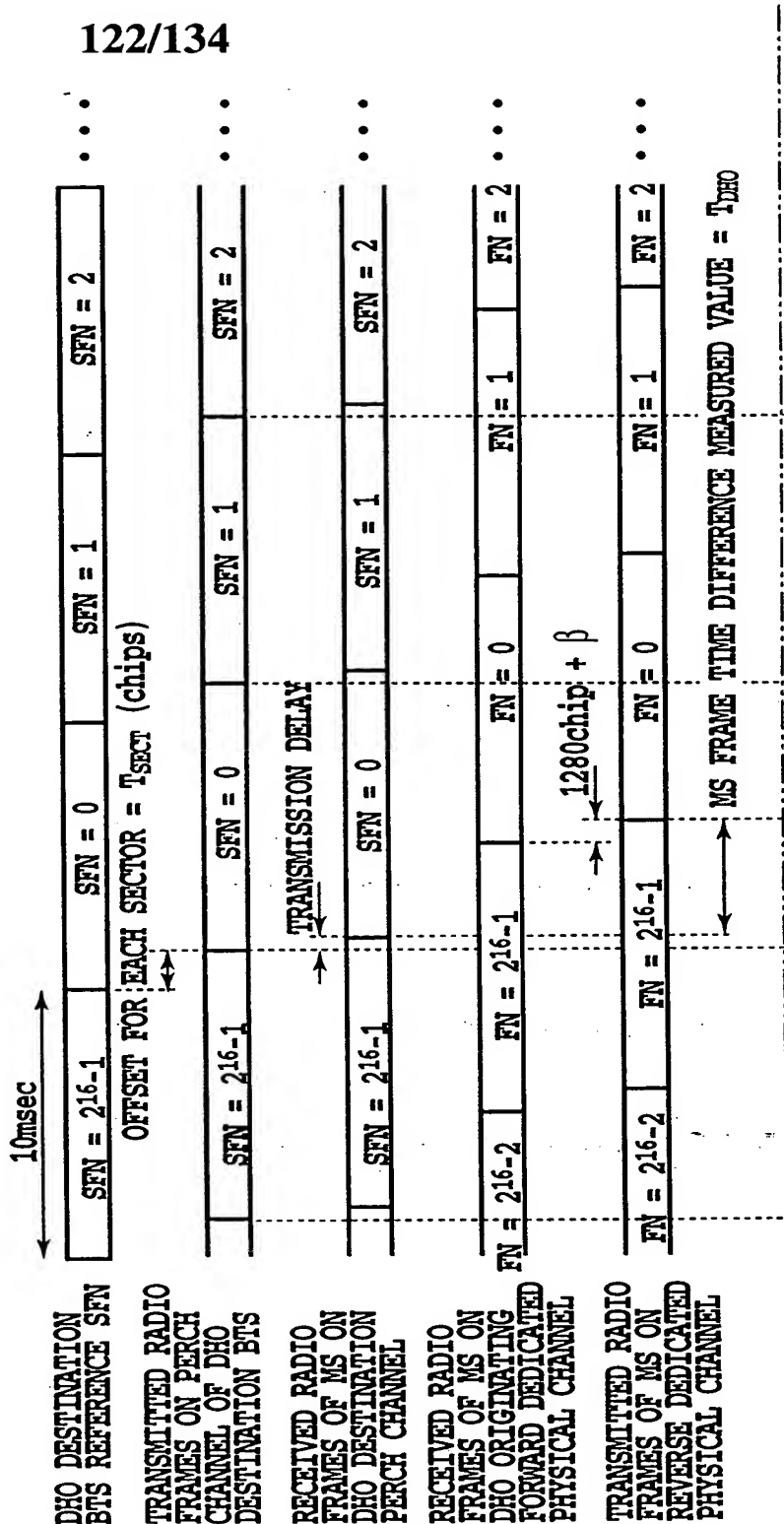


FIG.87B

FIG.88

FIG.88A
FIG.88B

FIG.88A



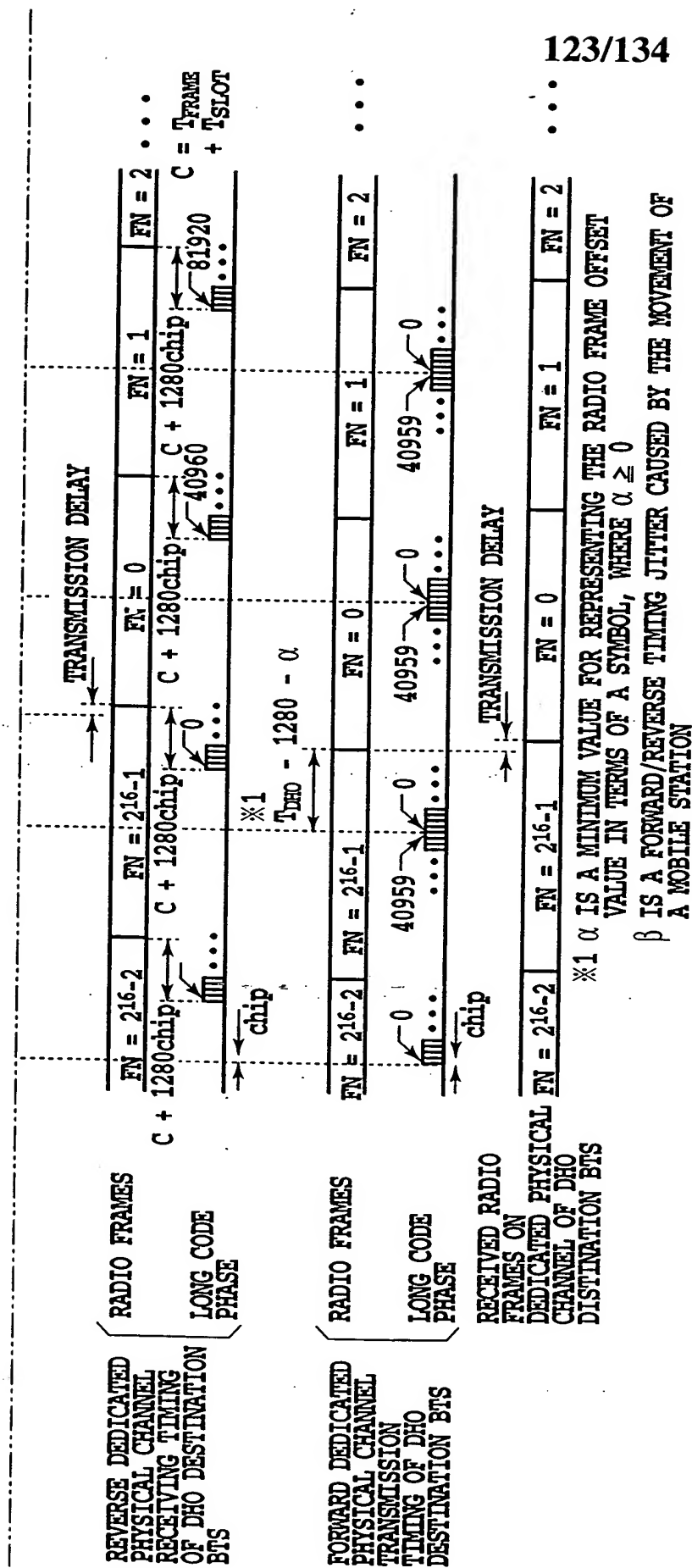


FIG.88B

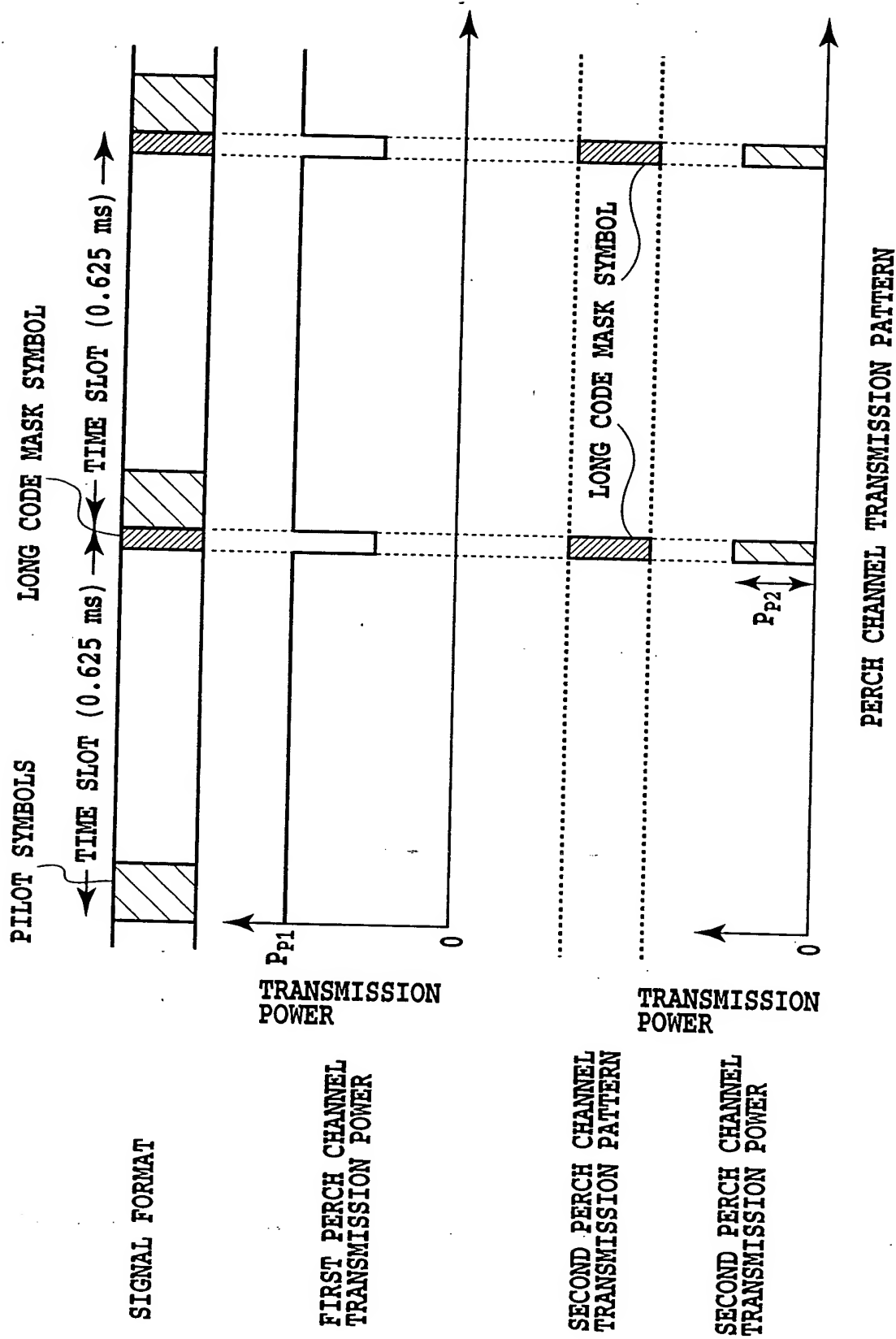


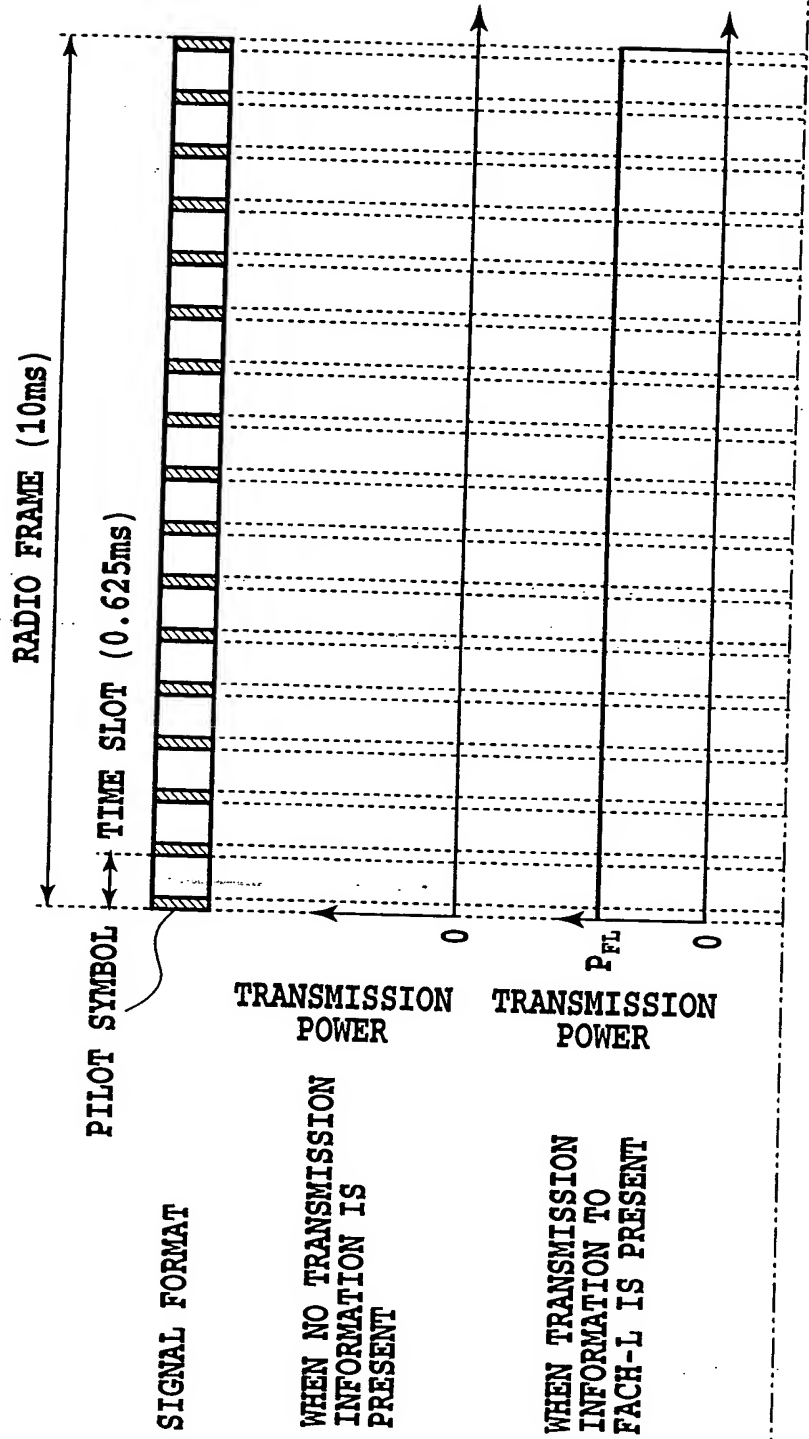
FIG.89

FIG.90

FIG.90A

FIG.90B

FIG.90A



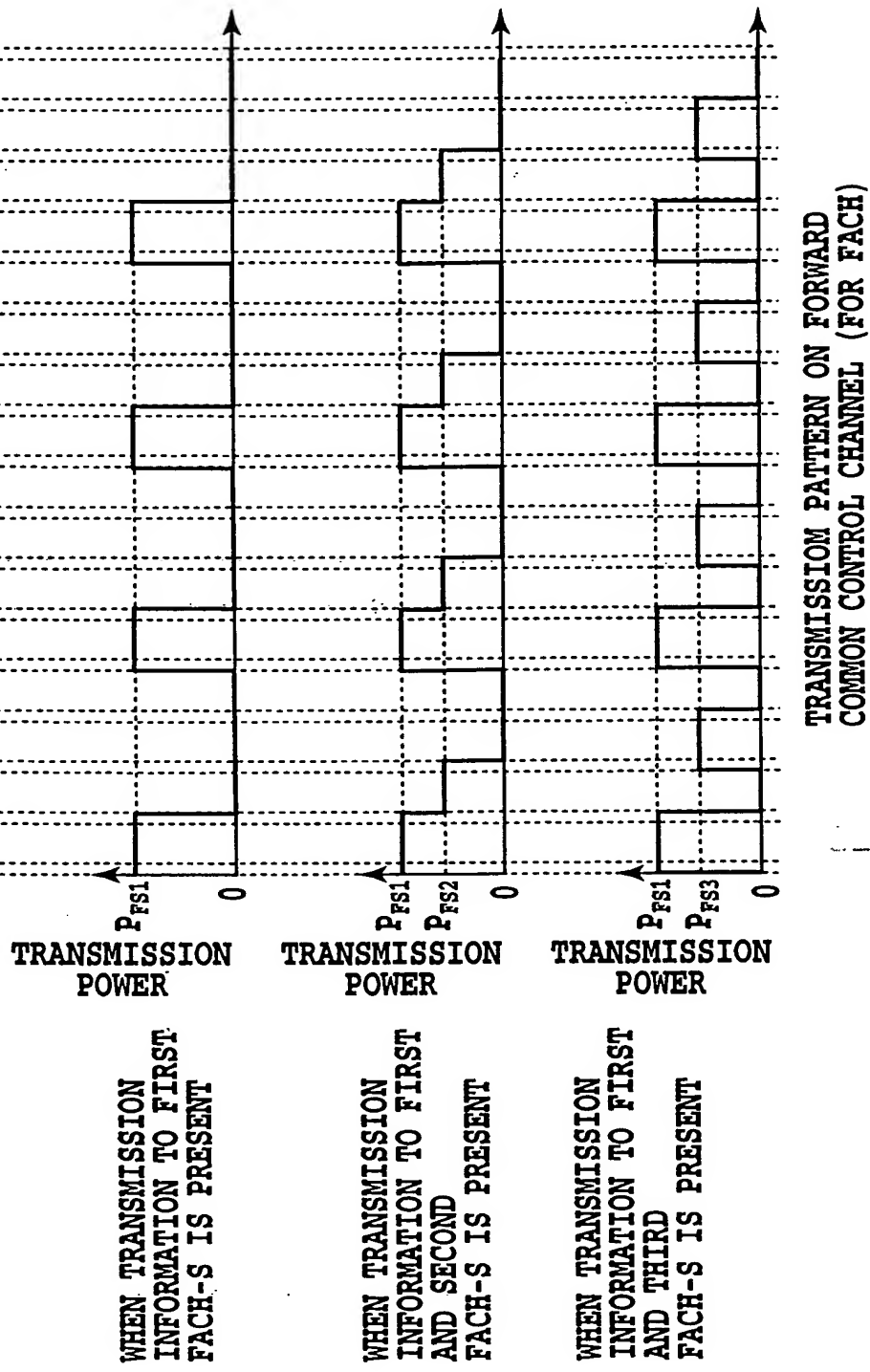


FIG.90B

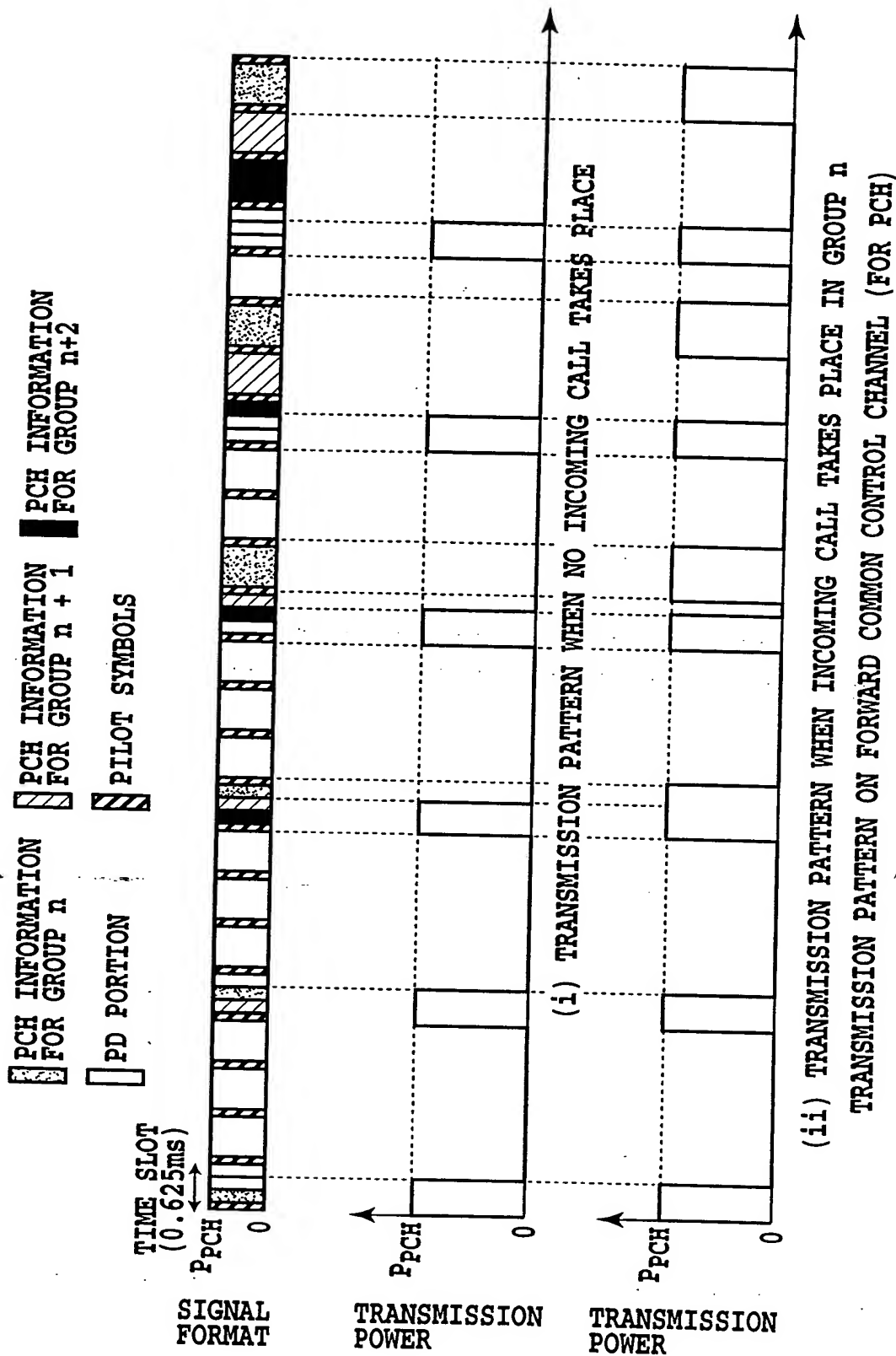


FIG.91

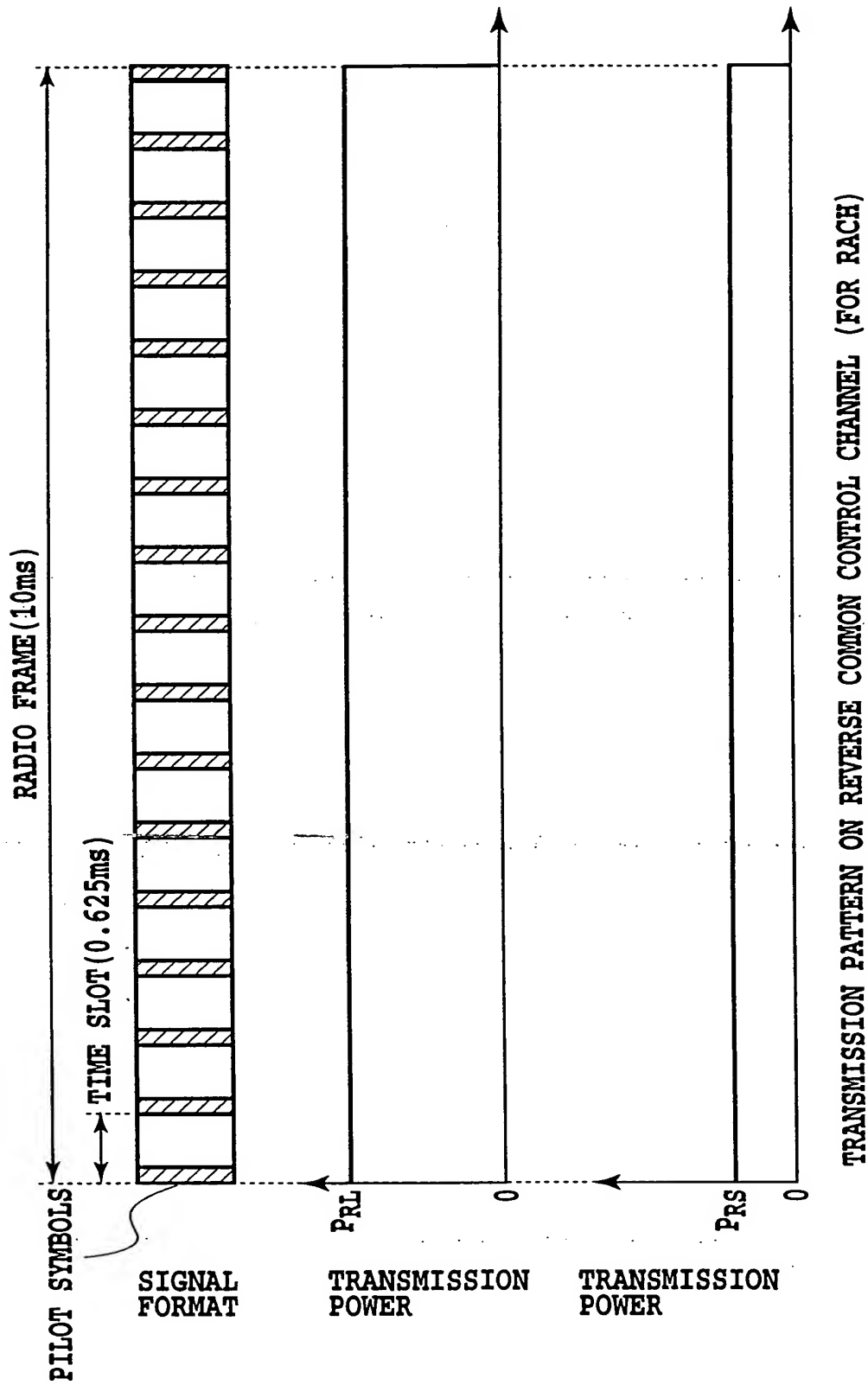


FIG.92

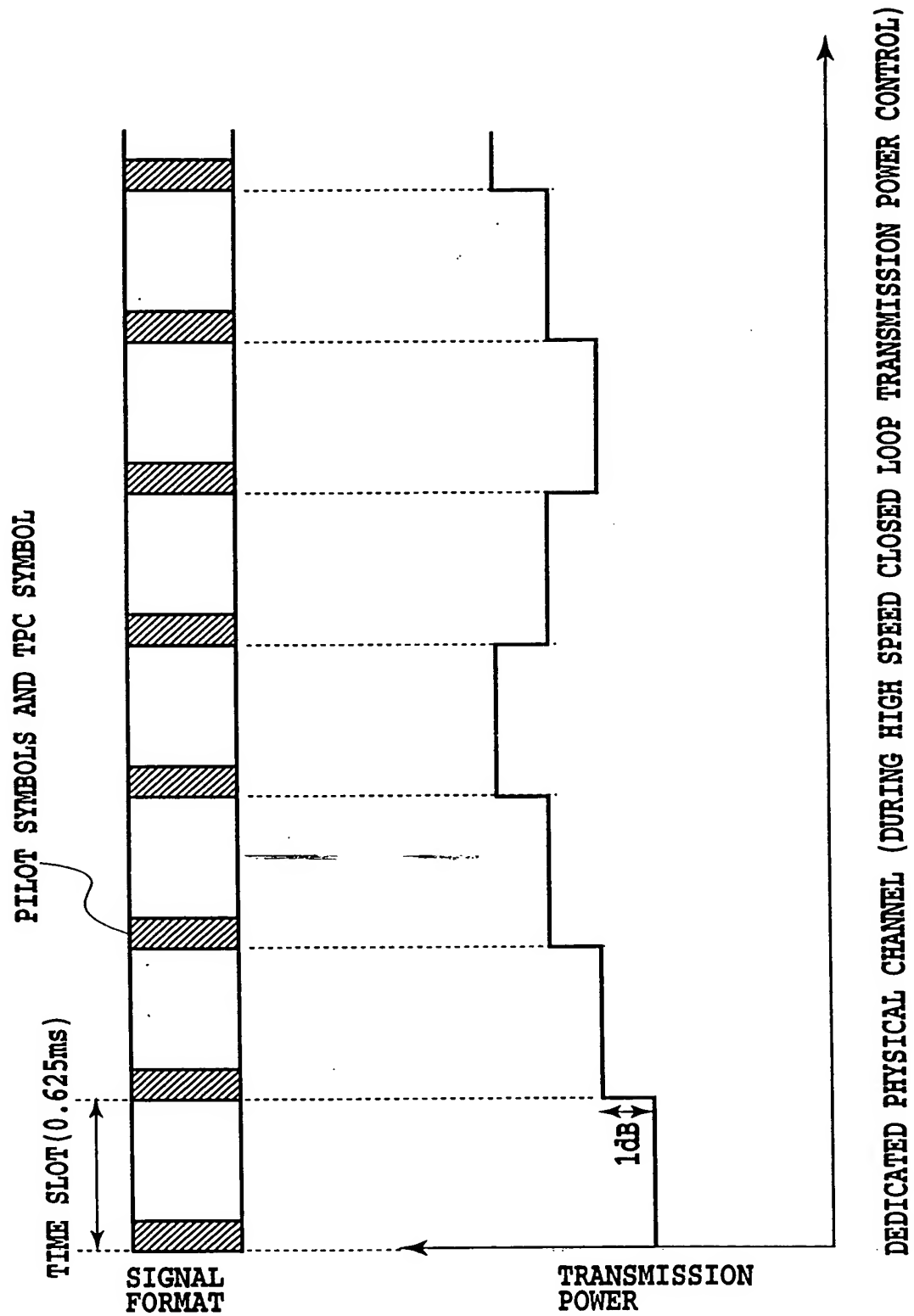
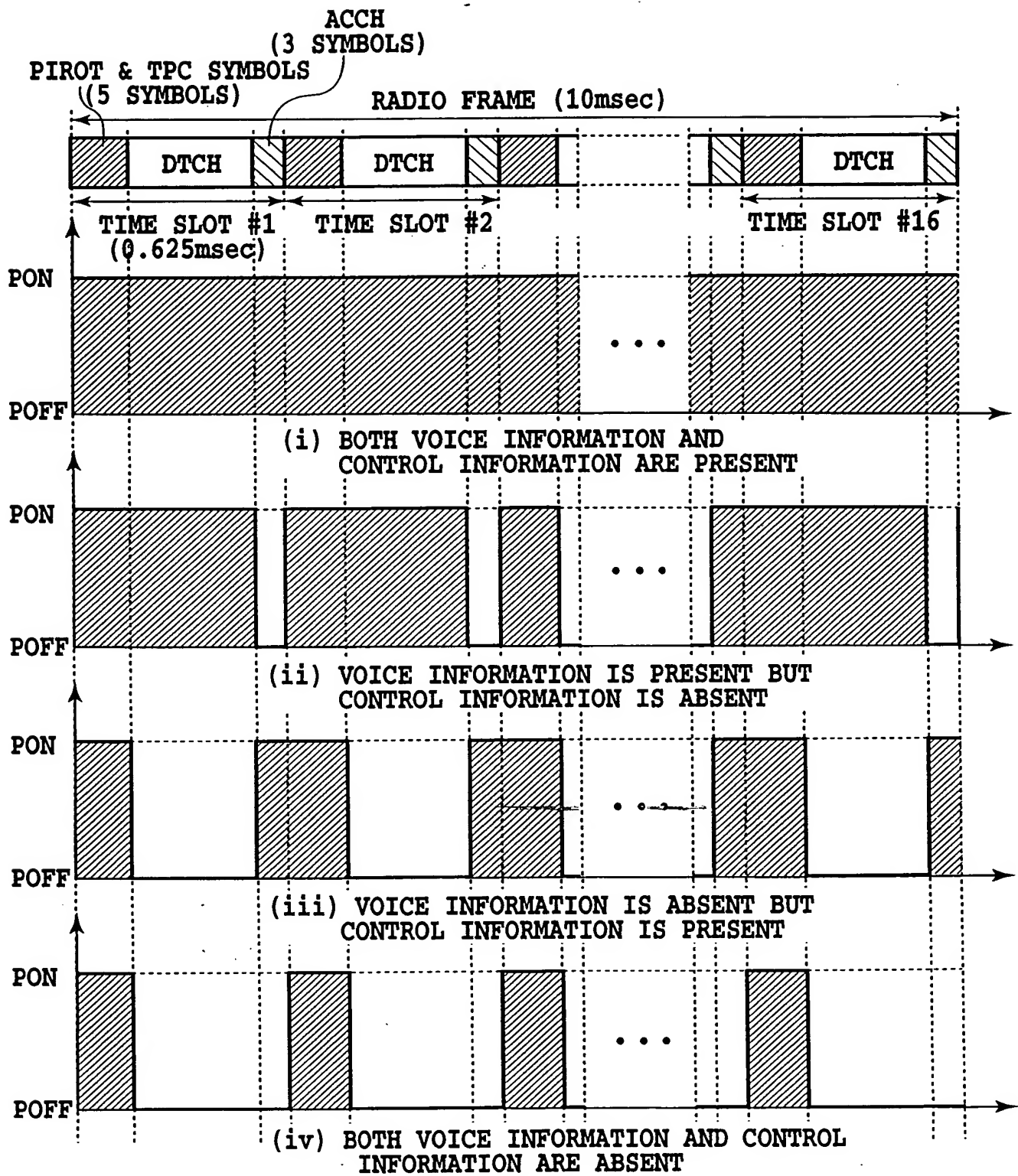
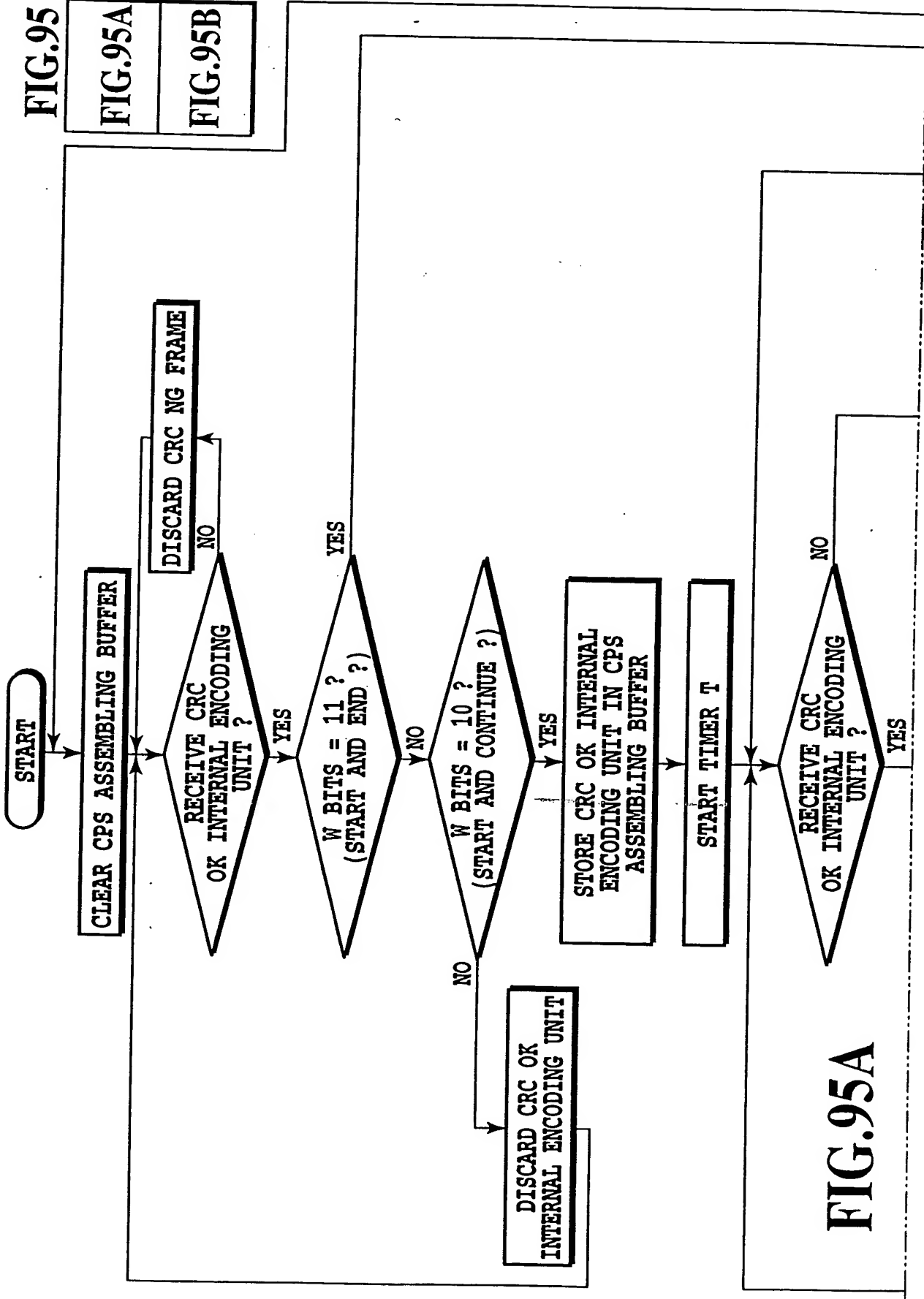


FIG.93



32 KSPS DEDICATED PHYSICAL CHANNEL (DTX CONTROL)

FIG.94



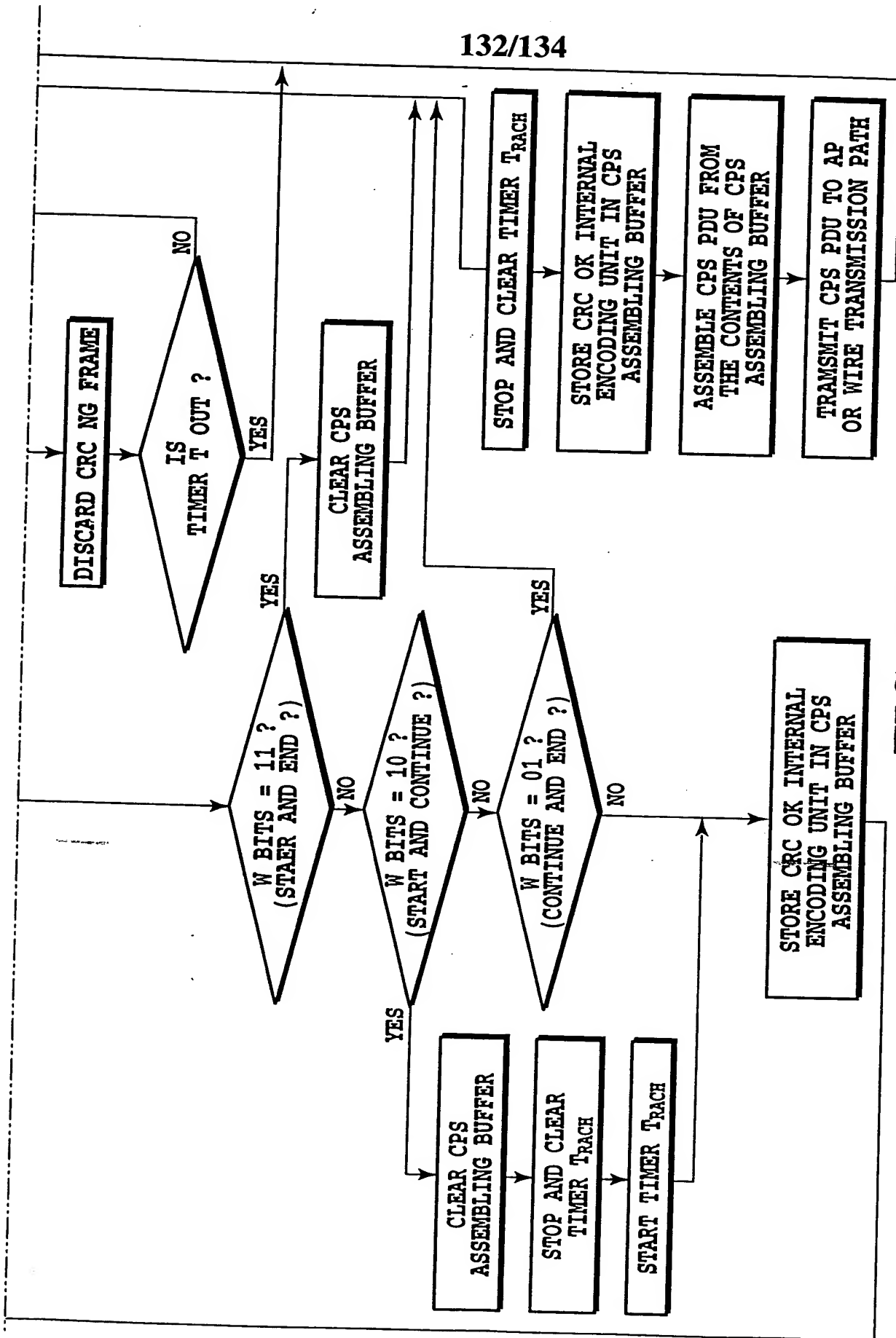


FIG. 95B

FIG.96

FIG.96A

FIG.96B

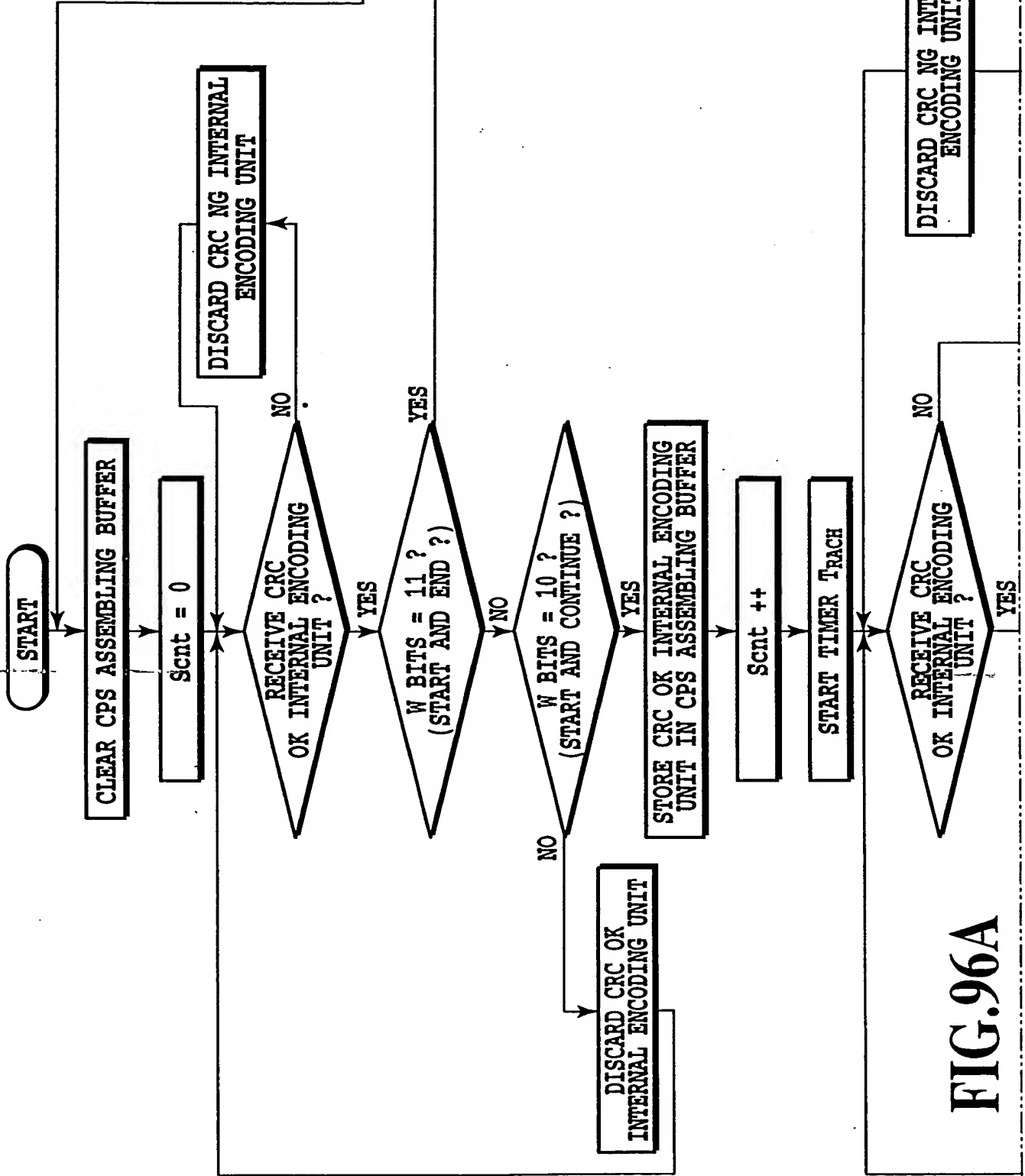


FIG.96A

FIG. 96B

